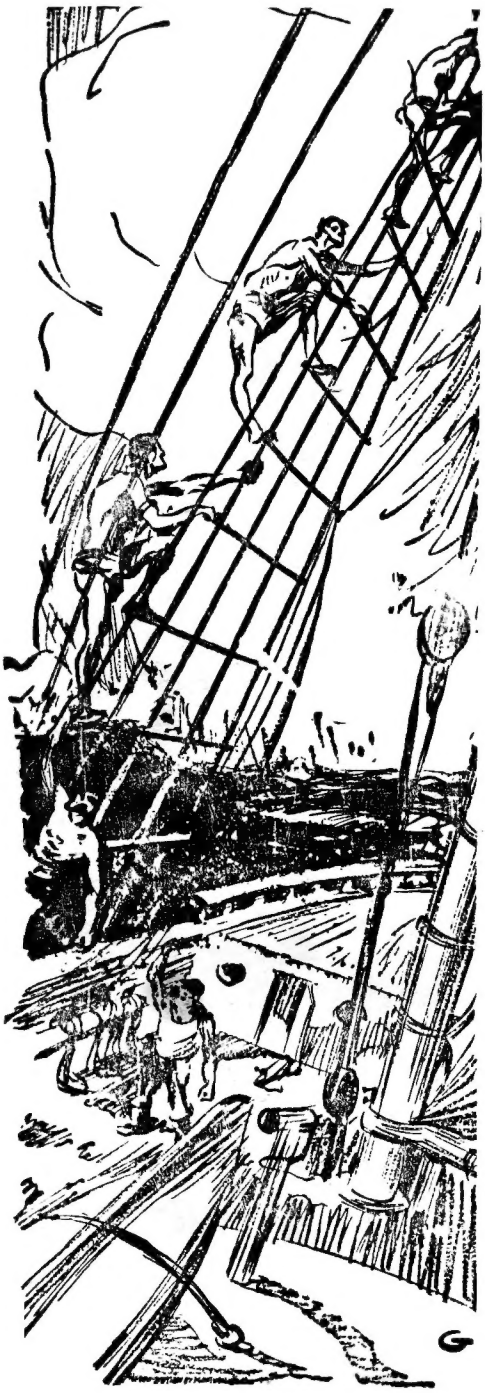
TALES of WONDER

No. 8

1/-

THE COMET DOOM
by
EDMOND HAMILTON

LIFE ON MARS— by Prof. A. M. LOW



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AND

TYPHOON BRADLEY

by

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Mr. Wetjen's doughty little hero of the South Sea islands has become such a popular favourite that when the third volume of his adventures in this series ended with his death we had innumerable complaints from admiring readers.

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TALES OF WONDER

and Super-Science

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TALES OF WONDER

and Super-Science. No. 8

WALTER H. GILLINGS, EDITOR

USE YOUR IMAGINATION!

By THE EDITOR

WHAT a dull world this would be without Imagination! Just imagine—since you *can*—what it would be like if we were completely unable to visualise anything that did not actually exist before our eyes; if we could not see any farther than our noses, in fact. Without the ability to look ahead, to see beyond our immediate surroundings, we should make no progress at all. For it was only by picturing them in their minds beforehand, and afterwards making the visions into realities, that their inventors could produce the steam-engine, the motor-car, the aeroplane, the radio, and all the other marvels which we have come to accept as commonplace, but which were once regarded as nothing *more* than fancies.

Imagination, then, means advancement. What it is, and how it works, no one can properly explain: it is one of those mysterious powers of the mind which, as yet, we know very little about except that we possess them. It might almost be a sixth sense, and it is certainly just as important as any of the other senses, since it is a faculty we could so ill afford to be without.

Yet we hear of people who "have no imagination." Rather should we say that their sense of imagination has not been properly developed. In this age, when so many things are provided for us without our having to contrive them for ourselves, there is a danger that our imaginations may be dulled through sheer neglect to exercise them. It is then that we have to look round for something unusual that will stimulate our minds and set our imaginations working again.

There is nothing that will exercise and develop the imagination so effectively, and so pleasantly, as science fiction, since it is of its very nature so imaginative. Its creators are men whose capacity for indulging their own imaginations, and conveying their fancies and thoughts to others, are greater than those of other writers of fiction; who are not content to limit their imaginative faculty to ordinary, everyday things, but let their minds soar out into space, through the dim

vistas of Time, and wherever they may find fresh things to invite their speculation.

Yet they base their imaginings on facts—the marvellous facts of Science; on existing things, which have only been realised by others exerting their imaginations before them. And so they build up their new conceptions and mould them in the form of fiction, in order that those who find pleasure in exercising their imaginative sense may read and delight in their tales of wonder.

Though we believe there are a great many of our readers whose sense of imagination is so well developed that they are able to conjure up for themselves fascinating visions, founded on facts, even though they may not be able to communicate their ideas to others in the form of an entertaining story. And because we feel their speculations must be of interest, for all that, we are going to enable them to present their ideas in a simpler form which will still bring them to the notice of our readers, and may—who knows? —help to formulate thoughts in other minds which will lead to further advancement in some sphere of scientific progress.

We invite all our followers who are given to thinking for themselves on these lines, and who have interesting ideas to communicate, to write them down in simple language and send them in to us for dissemination through the pages of our magazine. And, in order that we may marshal your ideas and put them in separate compartments, we shall announce in each issue a different subject—some particular question of Science that gives scope for endless theorising—on which you may have engaging thoughts or helpful suggestions, to convey.

It will also be necessary for us to limit, if not your imaginations, the number of words in which you express your imaginings. But don't let that deter you. Let us have your ideas, for a start, on the fascinating question of LIFE ON MARS, on which topic Professor A. M. Low gives us a host of intriguing theories in an article in this issue. Every science fiction reader has some pet notion on this favourite subject—let us have *yours!* And if you have any ideas on other subjects which you are particularly anxious to express, let us know what those subjects are, and we will set them down for attention in future issues.

On Page 72 you will find full details of the inauguration of this, our unique *SEARCH FOR IDEAS.* And don't think you have to be an accomplished writer in order to participate: all you need do is write down your thoughts in plain, unvarnished language, without attempting to present them in a literary style, and in as few words as possible. We do not want to restrict you, if you have a good deal to suggest, but we want Ideas rather than wordy effusions. In our next issue, we shall print a selection of the imaginative Ideas we receive, and for the most interesting, ingenious and helpful Ideas, prizes will be awarded.

If you have friends with whom you discuss such absorbing topics, tell them about this opportunity to express their opinions on various scientific questions which are of intense interest to thousands of TALES OF WONDER readers. Space-travel, Time-travel, the World of the Future, the Evolution of Man, Life on Other Planets, Immortality, the End of the World—these are some of the exciting topics on which we shall invite you to speculate, and on which you may, in due course of time, prove to have been a discerning prophet.

Imagination means Progress. No matter what your Ideas, they will interest our readers, and may make some contribution towards the advancement of Science and Mankind. So let us have them!

Creatures Of Metal, Born Of A Cosmic Wanderer, Planned A Gigantic Conspiracy To Steal A World . . . And Earth Tottered On The Brink Of Doom!

THE COMET DOOM

By EDMOND HAMILTON

Author of *The Space Beings*, *The Horror in the Telescope*, *etc.*

CHAPTER I

THE THING IN THE SKY

DESTINY. . . .

We know now. It was Destiny, from the first. Out in the depths of space the colossal conspiracy came into being. Across the miles and the years, it sped towards its climax; flashed towards our Earth, towards that last, supreme moment when a world stood at the brink of doom. Then—Fate intervened.

Circling planet, blazing Sun, far-flung star; these things were but the turning wheels of Fate's machinery. And that other thing, that supernally beautiful, dreadful thing that flamed across the heavens in a glory of living light; that, too, was but a part of the Master-Mechanism. Destiny, all of it, from the beginning. And that beginning . . .

The story, as we know it, is Marlin's story, and the beginning, to him, was always that June evening when he first came to the Ohio village of Garnton. He had trudged up over the ridge of a long hill, when the place burst suddenly upon his vision.

Before him, sweeping away to the misty horizon, lay the steel-blue expanse of Lake Erie, smoke-plumes far out on its surface marking the passage of steamers. In the west, the setting Sun glowed redly, its level rays tipping the drifting clouds with flame. And just below him, stretched along the lake's shore, lay Garnton, a straggling assemblage of neat, white-painted buildings.

The sight was a grateful one to Marlin's eyes, and he contemplated it

for a few moments from the ridge, inhaling great breaths of the sweet, cold air. A plump little man of middle age, dressed in stained khaki clothes and crush hat, rucksack on back, his blue eyes surveyed the scene below with evident pleasure. A large, white building beside the lake caught his eye, and he gazed at it with sudden intentness.

"Hotel," he muttered to himself, with conviction. And then, in a tone rich with anticipation: "Supper!"

The thought spurred him to renewed action, and hitching his rucksack higher on his shoulders, he began to tramp down towards the village. For though Marlin had so far yielded to the lure of the open road as to spend his vacation in a walking-tour, he was as yet not insensible to the civilised comforts that might be obtained at hotels; and it was with quickened speed that he trudged on over the rutted, dirt road. Even so, twilight was darkening by the time he entered the dim, quiet hotel in quest of room and supper.

Complete darkness had descended on the world, and complete contentment on Marlin, by the time he sauntered out of the big dining-room and looked about in inspection of his surroundings. He wandered into the lobby, but found it uninviting. The few magazines there were of the type associated with dentists' waiting-rooms, and the only newspaper in sight was in the joint possession of three oldsters who were fiercely arguing a question of local politics. When Marlin ventured to interject a remark, they regarded him with cold suspicion, and somewhat abashed, he retreated to the wide veranda.

It was quite dark on the veranda, but he managed to stumble into a chair. A moment later, he discovered that the chair beside him was occupied by the proprietor of the hotel, a very fat man who sat in silence like a contemplative Buddha, hands clasped across his stomach, chewing tobacco and gazing out into the darkness. His attitude was of such calm dignity that Marlin hesitated to disturb him with foolish speech, but, unexpectedly, the Buddha spoke.

"Tourist?" he asked, without turning, speaking in a deep, rumbling voice, like that of a questioning judge.

"Hiking," Marlin answered. "I've walked half-way around the lake, from my home-town over in Ontario. I guess I'll rest here for a day or two, and then get a boat back."

The fat man spat over the veranda-rail, accurately, and uttered a grunt of acquiescence. He offered no further remark, and the two sat on in silence.

Looking out over the lake, Marlin absorbed with quickening interest all the beauty of the scene. There was no Moon, but stars powdered the heavens like diamond-dust on black velvet, shedding a thin white light on the dark, tossing surface of the lake. Gazing into that vista of cool, limitless night, the

Since the days of Mr. Wells's famous stories, many writers have played with the idea of hostile creatures invading our fair world and trying to capture it for themselves. We have already published a few stories of this kind, and some of our readers have expressed a wish that we should not pay too much attention to this already well-worn theme. But here we have such a story that is definitely different, and which we consider one of the best of them that we have ever read. For the sheer audaciousness of its plot, its clever treatment, and the vividness of its narration, we think it would be hard to beat; and we offer it to our readers confident that they will agree with these conclusions.

whole world seemed shrouded in quiet peace.

Abruptly, at the eastern horizon, a ghostly green radiance began to pour up from behind the distant waters. It pulsated, gathered, grew stronger and stronger. Then, seeming to clear the horizon with a single bound, there leaped up into the sky a disk of brilliant green light, as large as the absent Moon. Like a huge, glowing emerald of fire, it was, and from it streamed a great green trail of light, stretching gigantically across the heavens.

THE fat man, too, was regarding it. "It gets bigger each night," he commented.

Marlin agreed. "It certainly does. You can see the difference from one night to the next. It says in the papers that it's coming millions of miles closer every night."

"They say it ain't going to hit us, though," remarked the other.

"No danger of that," Marlin assured him. "On the 14th—that's three nights from now—it will pass closest to Earth, they say. But even then it'll be millions of miles away, and after that it'll be going farther away all the time."

The fat man became oracular. "A comet's a queer thing," he stated, his eyes on that green splendour of light.

Marlin nodded assent. "This one's queer enough, I guess. What with its green colour, and all. They say no one knows where it came from, or where it's going. Just comes out of space, rushes down towards the Sun and around it, and then rushes back into space, like it's doing now. Like a big tramp, wandering around among the stars."

The hotel proprietor regarded him with new respect. "You must know a good bit about them," he said.

Flattered, Marlin yet deprecated the compliment. "Oh, I just read the papers a good bit. And there's been a lot in them about the comet since they first discovered its presence in the sky," he answered.

"But what's it made of?" asked the other. "Is it solid, like the Earth?"

The smaller man shook his head. "I don't know. Some say it's solid at the nucleus—that's the bright spot in its head—and some say that the whole comet's nothing but light and gas. Nobody knows for sure, I guess."

Together they stared up at the shining thing. The fat one shook his head in slow doubt.

"I don't like the looks of it," he asserted. "It's too big—and bright."

"No harm in it," Martin assured him. "It won't come near enough to hurt *us*. They've got it all calculated, you know; all worked out. These professors——"

Unconvinced, the other continued to stare up at the brilliant comet. And Marlin too regarded it, chin in hand, fantastic thoughts passing through his brain. . . .

Many another chance watcher was gazing up towards the comet that night. The thief prowling in the shadows looked over his shoulder at it, muttering curses against its green, revealing light. The hospital patient, lying unsleeping in his dim-lit chamber, watched it through his window with sick eyes. The policeman, sauntering through darkened streets, spared it a casual glance.

And in the darkened observatories, hurrying, excited men worked unceasingly with lens and spectroscope and photographic plate. With a myriad delicate instruments, they sought data on the nearing comet; for this great, green wanderer from outer space, known to be the largest and speediest comet ever to enter the Solar System, was swinging out again from the Sun on its outward journey into space.

There remained but a few nights more before it would have attained its nearest position to Earth, and after that it would flash out into the void, perhaps to reappear thousands of years hence, perhaps never to return. From its first appearance as a far, tiny speck of light,

their telescopes had watched it, and would continue to watch it until it had receded into the infinity of interstellar space. Data! That was their cry. Later, all could be examined, marshalled, correlated; but now, if ever, data must be obtained and recorded.

Yet they had found time, from the first, to send out reassuring messages to the world. The comet would not come within millions of miles of Earth, for all its size and brilliance, and it was impossible for it to collide with, or bring any harm to the Earth. Though no man could know what lay hidden at the nucleus, the comet's heart, it was known that the great, awesome coma and tail were nothing but light and electrical force and tenuous gases, with hardly more mass than the Aurora Borealis, and as harmless. There was nothing to be feared from its passing.

With that calm reassurement, few indeed felt any anxiety concerning the thing. And with that reassurement in mind, Marlin could repeat to the doubting man beside him: "It won't affect us. The thing's been all worked out."

But his host made no answer, and for a time they sat in thoughtful silence. Until there drifted across their vision, some distance out on the lake, a great, high-built boat, its four decks ablaze with yellow light. Very clearly, over the water, they could hear the sound of its paddles, and with it a faint, far sound of singing, and a ghostly thrumming of ukeleles and guitars.

The fat man nodded towards it. "Excursion boat from Cleveland," he pronounced.

As it came nearer, the sounds from it came more distinctly to their ears, borne on a little breeze: clear young voices, singing a popular melody of the day, and throbbing music, drifting across the summer night. Fascinated, Marlin watched it. And over in the eastern sky, the flaming orb seemed to be watching also, like a great, malignant eye, green, b a l e f u l, immense. . . .

IT WAS on the next morning that there appeared in the newspapers the first dispatch from the Buell Observatory. It has sometimes been stated that that first dispatch "aroused widespread interest," but such an assertion is quite untrue, as even a casual inspection of the newspapers for that date will disclose. Only a few of them printed the item at all, and those who did so assigned it inconspicuous positions.

The message itself was signed by Lorrow, the head of the Buell institution, and stated simply that a slight increase in the Earth's orbital speed had been detected during the last twenty-four hours. It added that, while this apparent increase might be due to erratic instruments, it was being given further attention. A few hours later a second message announced that the increase had been definitely confirmed, and that it was somewhat greater than had at first been believed.

To astronomers, the news was startling enough, for to them, this sudden acceleration of the Earth's speed seemed quite inexplicable. Their calculations assured them that it could not be due to the influence of any known heavenly body; what, then, was its cause? They attacked the problem with exasperated interest.

Outside of astronomical circles, though, it is doubtful if there were a thousand people who gave any serious attention to those first two statements. In science, as in all else, the public's attention is centred always upon the spectacular, and it took but little interest in this matter of fractional differences in Earth's speed. The only reference to it in the newspapers that evening was a short message from the Washington Observatory, which confirmed Lorrow's discovery and stated the exact amount of speed-increase, with a staggering array of fractions, decimals and symbols. It also stated that this acceleration was only momentary, and would disappear

within the next twenty-four hours.

So, the few puzzled over the matter and the many shrugged their shoulders at it, while the Sun sank down in the west and darkness stole across the world. And then the night was split by the rising comet, driving up above the horizon and soaring towards the zenith. It flashed across the heavens in green glory, and then it too rocketed down towards the west, while in the east there crept up the grey light of dawn.

It was then that there came to the world Lorrow's third message. It sped along a thousand humming wires, roared from the presses in a thousand cities, was carried, shouting, through ten thousand sleeping streets. Men woke, and read, and wondered, and stared at each other in strange, dawning fear. For instead of returning to its normal speed, they learned, the Earth was moving faster and faster through the heavens, and already, as a consequence of this increased speed, was beginning to veer outward a little from its accustomed orbit.

"If this inexplicable acceleration continues," Lorrow wrote, "and the Earth veers still farther outward, it will be brought uncomfortably close to the head of the passing comet."

CHAPTER II

THE EARTH'S PLUNGE

A SUDDEN doubt, a moment of chilling fear, oppressed the world as those first words of warning were flashed around it, and had Lorrow's message been allowed to stand uncontradicted, it might well have precipitated a panic then and there. But it was not allowed to do so, for before many minutes had passed, there came from a score of observatories indignant denials of Lorrow's statements.

They admitted that the unexplained acceleration of the Earth's speed was apparently continuing, but they denied that the planet had swerved from its orbit, and poured scorn upon the idea that it might collide with the nearing comet. Such a thing was impossible, they asserted, and quoted innumerable authorities to prove that the Earth would not come within millions of miles of the comet. Lorrow, they denounced as a cheap alarmist who sought to gain publicity for himself at the expense of the world's fear. There was no danger: they repeated it, insisted upon it. *There was no danger.*

Such statements were effective, and by means of them the first fears of the public were soon calmed. Here and there, one might read with knitted brow and look up in sudden apprehension, and in observatories, men might glance at each other with startled eyes; but in the main, the currents of life pulsed through their accustomed channels, and through that long June day men walked their ways as always.

It is with a stilled, incredulous wonder that we now look back upon that day. Knowing what was to happen, what *was* happening even then, we see that day as the last of an era, the hour of the world's doom. But at the time, it must have seemed like any other day in early June. Children released from school would be running and shouting, no doubt. There would be men gazing out of office windows, their thoughts on green links and winding roads. And women chatting in the markets. And sleepy cats on porches, sprawling in the sunshine. . . .

The newspapers that evening announced that the comet would be larger when it rose that night, and explained that this increase in size was due to the fact that the great green wanderer was still steadily nearing Earth on its way out of the Solar System. On the next night it would reach its closest position to Earth, they stated, and thereafter would grow smaller, until it vanished from sight

entirely. It was believed that, when the comet departed from the Solar System, the mysterious acceleration of the Earth's speed would vanish also. In any case, they repeated, there was no danger.

Night came, and almost at once, the eastern heavens flamed ghastly green. Across the sky streamed brilliant trails of emerald light, obscuring the familiar stars, and tarnishing their glory. The radiance in the east condensed, dazzled, and then there flamed up above the horizon—the comet.

It rose that night like a great green sun, immeasurably increased in size and splendour, flooding the Earth with its throbbing radiance. The tremendous coma, the brilliant nucleus, the vast tail, flared in the heavens like a new, green Milky Way. And among the millions who watched sped whispers of awe.

For millions there were, who watched the comet rise that night. From the roofs and windows, streets and parks of great cities they watched it, while savages in deep jungles prostrated themselves before it, uttering weird cries of fear. Sailors far out at sea looked up towards it, and spoke of ancient superstitions and old beliefs. Men in prison gazed up at it through barred windows, with dim wonder. Fearful men pointed towards it and spoke of the wrath of God.

Yet even then, for all the millions who watched in awe, there were tens of millions who merely glanced at it as an interesting spectacle, who discussed it weightily, or gibed at the fears of the timid, or who paid it no attention at all, going about their business unheeding. And as the hours marched on, fearful and indifferent alike sought sleep, while over forests and fields, seas and steepled cities, the giant meteor soared across the heavens. Almost it seemed to grow greater with the passing of each hour, and the whole west flared with livid light as it sank down towards the horizon.

FROM a window perched high above the canyoned streets of New York, a single man watched the setting of the comet. Through the night, the news of Amsterdam, Hong Kong and Valparaiso had passed through his ears and brain and fingers, from clicking telegraph to clicking typewriter, to be broadcast by the presses in the building beneath him. Now, as he leaned beside the open window, the cigarette in his hand drooped listlessly, and beneath the green eye-shade his eyes were very tired.

A sudden metallic chattering at the other side of the room aroused him, and instantly he turned and hastened towards the operating table. With a swift, automatic movement, he slid fresh paper into his typewriter and began tapping out a copy of the message. As the instrument beside him clicked on, his body tensed in the chair, and he struck the typewriter-keys with a strange clumsiness. When the sounder's chattering had ceased, he sat motionless, staring at the words he had written; then he rose, trembling, and walked with dragging steps towards the window.

Around and beneath him lay the sleeping city, silent beneath the first grey light of dawn. Westward, the Jersey heights loomed darkly against the sky, and low above them spun the gigantic comet, its splendour dulling a little in the pallid dawn light. It was the comet that the man at the window was watching, his face white, his lips working.

"It is doom," he whispered.

From far below came a sudden whistling of tug-boats, clamorous, strident. It ceased, and a faint echo of his words murmured mockingly in his ears.

"Doom!"

He turned and reached for a telephone, pressing a button at its base. When he spoke into the instrument, his voice was dry and level.

"Collins?" he asked. "This is Brent, first night-operator. Take a bulletin that just came through. Ready?

" 'Washington, D.C., June 14th. Special bulletin. All papers copy. Astronomers at the Washington Observatory have just discovered that, as a result of its mysterious acceleration in speed, the Earth has left its proper orbit and is moving headlong through space towards the head of the oncoming comet.

" 'The latest spectroscopic observations reveal the presence of vast quantities of poisonous gases in the coma and tail of the comet, so that if the Earth continues in its present course and passes into the comet's head, the result will be the swift asphyxiation of all life on this planet. It is estimated that, before midnight to-night, the Earth will have passed inside the gravitational grip of the comet, and after that it will be only a matter of hours until the end.' "

That night, when the giant comet again rose in the east, it blazed in the sky like a great sea of green fire, its whirling coma filling half the heavens, its brilliant nucleus shining with an intolerable radiance. And its light fell down upon a world gone mad with fear.

The shouts of men, the sobbing of women, and the crying of children; the ringing of bells and screaming of whistles that heralded the terror across the Earth; the chanting voices of crowds that knelt in tearful prayer, and the hoarse voices that called for them to repent; the roar of automobiles that fled north and south, east and west, in a blind effort to find escape where there was no escape: all these sounds, and ten thousand others, combined to form one vast cry of utter terror that leaped from the world as from a single voice.

But as the inexorable hours marched on, and the sea of fire above grew greater and greater, nearer and nearer, a strange stillness seized the world. The mad shouting and mumbled prayers died away; the fear-crazed figures in the streets sank down and sprawled in an apathy of hopeless terror. It was the end—for Earth, for man, and all the works of man. Thus, sunken in a lassitude of dull despair, silent as a planet peopled by the dead, the world drove on toward its doom. . . .

AT THE very moment when the Washington Observatory's fateful message was being flashed around the Earth, Marlin was leaving Garnton, heading north across the lake towards the Ontario shore; and while the world writhed beneath the panic caused by that message, he remained entirely ignorant of it. During the two days which he had spent at Garnton, he had read Lorrow's first dispatches regarding the Earth's sudden speeding-up, but in common with most of the world, had paid them but little attention. When he left the village that morning, nothing was farther from his mind.

It was in a small fishing-cruiser that he left, a dilapidated, noisy-motored little boat whose aroma strongly proclaimed its calling. By chance he had discovered that the boat's owner, a tall, silent and weather-beaten fisherman, intended to cross the lake at dawn that morning, and had prevailed upon him to take a passenger. So, when the little craft headed out from the shore at sunrise, Marlin sat at its bow, gazing into the grey banks of fog that spread over the surface of the lake.

Steadily the cruiser chugged through the lifting veils of mist. By the time the fog cleared, the land behind had dwindled to a thin, purple line. Then that too had vanished, so that they seemed to move upon a boundless waste of waters. The Sun, lifting higher in the east, flooded the world with its golden light, and as they forged onwards, Marlin whistled cheerfully. The world seemed to him, just then,

an extravagantly bright and friendly place.

For two hours the little boat crept northwards across the sunlit waters, and must have traversed at least half of the lake's width, when an island swung up above the horizon ahead; a black spot that grew swiftly into a low, dark mass as they moved on towards it. Marlin eyed it with lively curiosity, and turned to his taciturn companion at the helm.

"What island's that?" he asked, jerking a thumb towards it. The steersman peered ahead for a moment with keen eyes, and then turned back to Marlin.

"That'll be Logan Island," he told him. "Don't pass it very often."

"Wild-lookin' place," commented his passenger. "Anybody live there?"

The other pursed his lips and shook his head. "Not that I ever heard of. There's lots of little islands like that scattered around this end of the lake, with nobody on 'em."

They were swinging closer to the island, by then, passing it at a distance of a quarter-mile. It was a long, low mass of land, some three miles in length. Thick forests appeared to cover it completely, extending to the water's edge, but broken here and there along the shore-line by expanses of sandy beach. Marlin could detect no sign or sound of human presence.

It was while he stared at the place, in the brilliant morning sunlight, that there rushed upon them—the inexplicable. A high, thin, buzzing sound struck his ears, and at the same moment, a flexible, swaying rod of gleaming metal thrust itself up above the trees at the island's centre, rearing swiftly into the air like an uncoiling snake. At its top was a grey ball which appeared to be slowly revolving.

Marlin's jaw dropped, in sheer surprise, and he heard a startled exclamation from his companion. The rod had ceased its upward climb, and abruptly from the ball at its top flashed forth a narrow, dazzling ray of white light, brilliant even in the morning sunshine. It cut down slantwise across the waters, and struck the little cruiser's stern.

The next few seconds remained in Marlin's memory as a confused moment of blind, instinctive action. As the ray struck the boat, he saw the figure of his companion outlined for a second in living light, and then the whole rear end of the cruiser had vanished, steersman, deck and cabin being whiffed out of existence in a single instant.

Immediately, the deck beneath Marlin's feet tilted sharply, and he felt himself catapulted into the lake. The cold waters swirled around him and over him, as he sank beneath the surface. He struggled frantically for a moment, and then was shooting up again, his head popping up into the open air.

A few pieces of floating wreckage were all that remained of the cruiser. Hiding his head as much as possible behind one of these, he peered towards the island. The ray had been extinguished, and he glimpsed the high, swaying rod sinking down again behind the tree-tops. In a moment, the buzzing sound ceased also.

Marlin swallowed hard, and his pounding heart quieted a little. He listened tensely, but could hear no further sound from the island. There was only the washing of the waters around him, and the continual whisper of the wind. Then, slowly and fearfully, he began to paddle towards the island, still clinging to his piece of wreckage and hiding as much as possible behind it.

CHAPTER III

THE METAL BEINGS

FOR a time that seemed hours to his dazed brain, he crept across the waters towards the island, heading for its northern end. The Sun blazed down upon him with ever-increasing

heat as he struggled on, and the mass of land ahead seemed remote and mirage-like. Twice he heard sounds from the island's centre, sharp, rattling sounds, and each time he cowered down in sudden fear and then crept on again. When at last he pulled himself from the water, he stumbled across a narrow beach and into the forest, flinging himself into a thicket of underbrush and lying there, in a stupor of exhaustion.

For minutes he lay thus, breathing in great sobs, and then was abruptly roused by the realisation that something was tugging at his shoulder. He sat up, and instantly felt himself gripped from behind, while a strong hand clamped across his mouth smothered the instinctive exclamation which he had been on the point of uttering. A voice sounded in his ear, low and tense.

"Quiet!" it rasped.

For a space of seconds, he lay motionless, held by his unseen companion. He heard the distant rattling sounds again, murmuring faintly through the forest from the south, suddenly ceasing. Then the grip around him relaxed, and he turned to face the one who had held him.

Crouched beside him was a hatless and coatless young man of twenty-five or six, his clothing stained and torn, his hair dishevelled. He gazed into Marlin's face with quick, bright eyes, and when he spoke it was in a whisper.

"You were one of the men in the boat," he said, gesturing toward the lake. "I saw—from the shore."

"What was it?" whispered Marlin. "My God, man, what's on this island? That ray——!"

The other raised a hand in quick warning, and for a moment they were tensely silent. Again came that far rattling and clanging, hardly to be heard, dying away in a few seconds. Marlin's companion was speaking again.

"Have you any weapon?" he asked. "A pistol——?"

Marlin shook his head. Abruptly, the other agonised.

"No weapons!" he whispered hoarsely. "Only our bare hands. And they——"

Marlin caught his arm. "For God's sake, what's going on here?" he asked. "Who are *they?*"

The other gripped himself, and then spoke in level tones.

"I will explain," he said dully, passing his hands wearily over his eyes. "I need your help—God knows, I need more help than yours!—but first——"

He broke off, and gazed sombrely into the forest for some minutes before speaking again.

"Coburn's my name — Walter Coburn. I'm an entomologist—a bug-chaser—working out of the Ferson Museum in New York. You've heard of it? Well, I've been there three years, ever since I got my degree. Not much salary to it, but the work is interesting enough. It was with that work partly in mind that I came to this island.

"You know, or you may not know, that some of these little islands have an extraordinary profusion of insect-life. I was on the track of a hitherto unclassified wood-tick, and had an idea that it might be found on some such island as this. So, when Hanley suggested that we spend our vacation camping here, I jumped at the chance.

"Hanley was the closest friend I had. We were about the same age, and had got acquainted at the university, where we took many of the same courses. We shared a small apartment in New York, where he had been grubbing along teaching biology in a preparatory school, and as we couldn't spend much on our vacation, he had conceived the idea of camping on one of these islands for a couple of months.

"He knew about them from having cruised over the lake with a friend, some years before, and as lots of the islets were uninhabited, they would make ideal camping-places. It would be a little lonely, but far better than

a hot little apartment in New York; so he put it up to me, and we decided to try it.

"It was this particular island—Logan Island, they call it—which he had in mind. We came to Cleveland, bought some second-hand camping equipment and some supplies, and loaded the whole outfit into a leaky old tub of a motor-boat which we had rented for the next few months. Then we headed out to the island.

"We got here all right, and spent a day exploring the place. Back from the shore, at the island's centre, we found a little green plateau, which was quite bare and treeless and on the edge of which stood an old log-cabin. The cabin was in pretty good shape, except for a leaky roof, so we decided to stay in it, and spread our tent over the roof as an additional protection. It took us only a day to clean the place up and instal our simple outfit, and then we were all fixed. That was just three weeks ago.

"IN THE days that followed, we thoroughly enjoyed ourselves, fishing, swimming, or just loafing. Now and then, I beat around the island in search of the elusive wood-tick, and every few days we went over to the mainland, so it wasn't as lonely as we'd expected. After three years of New York, the quietness of the place was soothing. And then, twelve days after our first coming to the island, the lightning struck.

"The thing was like a bolt from a clear sky. On that particular night, Hanley and I were sitting up late, smoking and discussing the new green comet, which was getting nearer and was beginning to fill the newspapers with astronomical articles. Sprawled out in front of the cabin, and looking up into the star-scattered heavens, we were talking of the comet, when Hanley suddenly stopped short in the middle of a sentence and jumped to his feet.

"He turned to me with a queer expression on his face. 'Do you hear it?' he asked.

"I listened, but could hear no unusual sounds, and then, in a moment, I got it too. It was a deep, powerful droning sound, something like the whirring of a great machine, and it seemed to come from directly over our heads. Every moment it was getting louder, nearer.

"I turned to Hanley. 'A plane?' I suggested. He shook his head, listening with frowning interest. I knew he was right, for the sound was unlike that of any aeroplane-motor, though what it was I could not guess. Then I saw, almost directly above us, a little circle of blackness; a round, black circle that hid the stars behind it, and that was *growing*.

"It was expanding very swiftly, obscuring star after star, and the droning sound was becoming terrific. Had it not been for that sound, I would have thought the thing a balloon or parachute coming down towards us, but it was clearly not that. Whatever it was, it was descending with very great speed, and as it continued to do so, a vague, instinctive fear shot through me. I stepped back, hastily, towards the cabin. Then I heard an exclamation from Hanley, and turned around again, just in time to see the thing alighting upon the plateau.

"It was a cone, a gigantic cone of smooth metal, which shot swiftly down and came to rest on its great base without a jar, its apex still pointing skywards. It must have been fifty feet in height, from base to apex, and its sides were smooth and unbroken by any opening. The great droning sound had suddenly ceased.

"Hanley took a quick step towards the thing, his face alight with interest. I shouted to him to come back, and ran towards him. Then the whole scene was cut short in a fraction of a second. There was a click from the side of the great cone, and a flash of intense white

light leapt towards us. It struck me with stunning force, like a blow from a great club, and all went black before me. . . .

"When I came back to consciousness, my head was still aching from that blow, and bright morning sunlight was falling on my face. My first glance around showed me that I was lying on the floor of the cabin, and that Hanley lay beside me, still unconscious. And in a moment I discovered that we were both shackled to the cabin wall, by means of short metal chains and metal anklets that were fitted around our right legs.

"From the plateau outside, there came to my ears sounds of prolonged activity; hammering and tapping and clanging, with now and then a loud hissing, as of some escaping force. For the moment, though, I paid no attention to them, bending my energies towards reviving my friend. After a few crude restorative measures on my part, he opened his eyes, and with my help, sat up.

"His eyes widened as they took in the chains that bound us to the wall, and as the enigmatic sounds from outside reached his ears. He turned back to me, and for a moment we crouched there and stared at each other, a little wildly, I think. Then, before we could speak, the cabin-door swung suddenly open, admitting a single figure.

"We turned our eyes towards that figure, and gasped. For the thing that stood framed in the open doorway was so grotesque, so incredible, that I felt myself in the depths of some hideous nightmare; and I heard Hanley whisper: 'God!'

"IMAGINE a man whose body, or trunk, is of smooth black metal instead of flesh—just a round, thick cylinder of glossy metal; whose two legs have been replaced by four spider-like, metal limbs, and whose two arms supplanted by four twisting, metal tentacles, like those of an octopus.

"This creature was like that, not much exceeding the average man's height; and instead of a head, there was set on top of its cylindrical body a small square box, or cube, which it could turn at will in any direction. Inset on each of this cube's four sides was a single circle of soft-glowing white light.

"My first thought was that the thing was an intricate machine of some sort, but its quick, intelligent movements soon disproved that theory. A swift tentacle whipped up from it, as it stood there, and closed the door behind it. It poised for a moment, seeming to contemplate us, and then came closer, gliding smoothly towards us on its spider-like limbs. It halted a few feet away; seemed to be examining us.

"I shrank back in utter fear, yet I could not take my eyes from the thing. It was, I saw then, entirely metallic. A vague notion that this was some living creature armoured in metal was driven from my mind when I saw that there was no trace of flesh, or even clothing, about it. I noticed, too, that one tentacle held a dagger-like object, which I guessed to be a weapon of some sort.

"For only a moment the thing stood there; but in that moment I sensed that the strange glowing circles in the head were eyes of some sort, and that they were regarding us intently. Then, silent as ever, the thing glided back and out of the cabin, closing the door behind it. And again we faced each other in the silent little room.

"It was Hanley who broke the silence first. 'They've got us,' he said dully. 'That thing——'

" 'But what was it?' I asked him desperately. 'Metal—and yet moving—like that.'

" 'God knows,' he answered. 'It was alive, and intelligent, I think. A high order of intelligence, too. That cone—the ray that stunned us——'

"He seemed to be talking more to

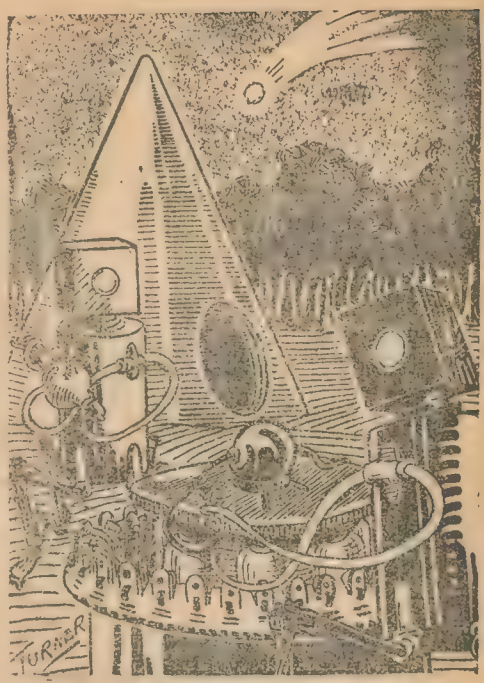
himself than to me. Then, suddenly, he jumped to his feet and stepped over to the window, dragging the short chain with him. He gazed out of the dirty, cracked glass in the opening, and watching, I saw something of astonishment and fear fall upon his face.

"In a moment I was by his side, peering out also. Before me lay the sunlit, green plateau, a scene of incredible activity. The first thing I glimpsed was a row of four metal cones similar to the one we had already seen, which rested on their bases at the farther edge of the clearing. Wide sections in their sides had swung aside, however, and in and out of the cones, and across the plateau, were swarming dozens of grotesque, metallic figures like the one which had already visited us in the cabin.

"All of them seemed the same in appearance, and except for a few who appeared to direct and watch the efforts of the others, all were busy at some task or another. Some were removing masses of tools and small machines from the cones, while others were busy assembling and testing other mechanisms in the open clearing. We glimpsed machines and tools, the purposes of which we could not guess.

"What struck me most forcibly was that all of these hundred or more figures in the clearing worked in utter silence. There was no speech of any sort between them, and except for an occasional clanging of tools, or a buzzing and hissing of machines, their work was quite noiseless. Yet each went about his particular task without the slightest confusion.

"For perhaps a half-hour we watched the things, whose activities never ceased, and only left the window when we saw three of their number approaching the cabin. We stepped away from the wall at once, and in a moment the door swung open, and the three entered.



"They were of the same appearance as the one who had first visited us; indeed, he may have been one of these three, for there was no distinguishing one from another. They came towards us, and I saw that one was holding a small square tablet of smooth, white material like stone, and a long metal pencil, in a tentacle. The other two carried the dagger-like weapons which we had already seen.

"The one with the tablet came closer to us, and held the tablet up to our view, then began to sketch swiftly upon it with the pencil.

"'Evidently trying to communicate with us,' muttered Hanley; and I nodded. In a moment, the sketching ceased, and the creature held up the tablet for us to see. On it he had drawn a number of circles, one very large circle being at the centre, while around it, and at various distances from it, were placed other circles of differing sizes, but all much smaller than the central one.

CHAPTER IV

CREATURES OF THE COMET

"WITH the pencil, the sketcher pointed to the central circle, and then up through the open door. We stared at him blankly, and he repeated the gesture. Suddenly, Hanley understood.

"'The Sun!' he exclaimed. 'He means the Sun, Coburn! He's drawn a diagram of the Solar System.'

"To show our comprehension, Hanley pointed also to the central circle on the tablet, and then up at the Sun. Satisfied that we understood, the creature then pointed to one of the smaller circles, the third in distance from the central one, and afterwards to us.

"This time his meaning was clear enough. He was indicating Earth on the diagram, and pointing to us as if to say that we were Earth-men, and that this was Earth. Again Hanley repeated his gesture, to show our understanding, and then the thing began to draw again on the tablet. In a moment, he held it up for us to see.

"He had drawn a curious little design on the white surface some distance away from the central circle. It was a large circle, from which there streamed backward a number of long, straight lines. He held it up for us to see, then pointed first to the new design, and then to himself and his two companions. For a moment we did not understand; then an exclamation broke out from Hanley.

"'The comet!' he cried. 'He's drawn the comet—he means that they are from the comet!'

"Something of awe fell upon us, as we looked at the creature. He pointed again to the comet-sign on the tablet, then towards the four cones on the plateau, and then to himself again. With that, the three metal beings turned from us and glided out of the cabin, fastening the door behind them. The meaning of that last gesture had been clear enough to us. The things had come from the comet to Earth, in those four great cones. But *why?*

"For hours we discussed the thing, while from outside came the clanking and hissing of the enigmatic machines. Why had these creatures come to Earth? It was plain that this was no invading party, for however advanced their science, a hundred of them could not conquer and hold a world. Yet why, then, had they come?

"We knew that the comet was at that time racing around the Sun, and that it would come close to the Earth on its way out of the Solar System. Could it be that they were establishing a base on the island, so that when the comet came closer, the others upon it could pour down on Earth? It was possible. But why had they spared us and kept us prisoned, instead of killing us? And above all, what *were* these comet-people, living, intelligent, yet with bodies and limbs of metal?

"For all the rest of that day we lay in the cabin, discussing these questions in awed whispers, and returning now and then to the window for further glimpses of the activities outside. We saw that escape was impossible, for the shackles and chains that bound us were strong, and tightly fastened to the wall-logs, while every weapon and tool of any sort had been removed from the cabin before we regained consciousness. Even if we had been unfettered, there would have been no chance of escape, for all around the cabin there swarmed the metal figures, their activity never ceasing.

"The day waned, and when night came, the invaders set in action great flood-lights from the cones, which lit up the whole plateau like day; and beneath this light they went on working. I could not see a single one who stopped to rest. Always they laboured, and beneath their swift tentacle-arms there grew up a great machine of some sort, the foundation of which was

already finished. Dully, I wondered what its purpose might be.

"A day passed and another, while we remained prisoned in the cabin. We had been left our own food and water, but we were not permitted to leave the cabin. Gradually, we lost interest in the activities of the creatures outside, who went on with their building, testing and assembling almost unobserved by us. Then, on the afternoon of the second day, there came to us again one with a tablet and pencil, who gave us to understand by various signs that he wished to learn our written language.

"We agreed to teach him, and within an incredibly short time, he had mastered the reading and writing of English. We would point to an object and write down its name, and so on, until his vocabulary was extensive. His memory must have been almost perfect, for he could look at a word once, and use it thereafter without hesitation. In two days he could converse with us with ease, through the writing tablet; and it was then that we learned, from him, the purpose of the invasion.

"AS WE had guessed, they came from the great comet which was sweeping through the Solar System. At the nucleus of that comet, we learned, there was a solid core, formed æons ago by long accumulations of meteoric material. There was air and water upon that core, though little of either; and it was lighted by the intrinsic light of the surrounding coma, and heated more or less by electrical radiation, also from the coma.

"The vast clouds of deadly gases in the comet's tail and head did not touch the solid core, and on that core, life had sprung up. That was but natural, once given a setting fit for the propagation of life. The theory of Arrhenius, according to which life-spores constantly traverse the universe and evolve into living creatures on whatever planet they strike, applies equally well to the comet's solid core. The life-spores had fallen there, also, and had grown through ages of evolutionary change into a race of intelligent, active creatures.

"They were not men; not human in form, but their science was more than human, and they devoted this superhuman knowledge to the task of making life easier upon their own comet-world. Every living thing must have food in order to live, and it was hard to produce food of any kind on the barren core of the comet. And this set their scientists to thinking.

"For a long time, these comet-people had depended more and more upon machines to do their work, and less and less on their own bodily strength. It is the same with the races of man today, who are forsaking manual labour for machine labour. On the comet, that process was very far advanced. Machines performed every necessary action for its people, and they rarely made use of their own strength.

"It is not hard to understand what finally happened. They began to say to themselves, in effect: 'It is our brain, our intelligence, that is the vital part of us; we would be rid of this handicap of the body for ever.'

"With this idea in mind, their scientists worked together, and finally produced a body of metal; a body-machine which was driven by atomic force, like all of their machines, and which needed only the slight, occasional care which is given to any machine. Inside that body had been arranged an electrical nerve-system, the controls of which led up into the square, metal head. In that head, also, had been placed a small, super-sensitive radio by which silent, constant communication could be had between metal body and metal body. Nerves, sense-organs, muscles; they were all there, and all were artificial, inorganic. The metal body lacked only a brain.

"It was then that one of their scientists performed his greatest

achievement, and brought complete success to their plan. From the living body of one of their number he removed the living brain, as their consummate art in super-surgery enabled him to do. This living brain was then placed within a specially prepared brain-chamber of a metal body, inside its cubical head.

"Of course, you know that the human brain is fed from the blood-stream of the human body. To replace this, they placed the brain in a special solution, having all the properties of nourishing the brain cells. This solution is usually renewed once a week, so that it is always fresh, and therefore the brain never really ages. Elaborate precautions are also taken to ensure that no germs shall ever enter the brain chamber, as it was soon found that the results were disastrous, where sufficient care had not been exercised.

"The brain chamber is formed of a platinum-like metal, which never oxidises, and lasts practically for ever, unless damaged by blows or other unusual accidents. When the brain is finally placed in its platinum chamber, the surgeon carefully connects the nerve-ends of the brain with the electrical nerve-connections of the metal body.

"Then, an apparent miracle is accomplished. The body lives; can move, and can walk. The brain or intelligence of the one who had gone under the knife is now actuating the lifeless metal frame, directing and controlling it. And that intelligence is now for ever free from the demands of its former body of flesh, residing as it does now in the untiring metal body, which requires neither food nor sleep.

"The experiment was thus a complete success, and at once it was duplicated on a big scale. Within a short time, every living being on the comet-world had been treated likewise, so that his brain reposed in a similar body of metal. And so, for ages, the comet-people lived, undying brains cased in bodies of metal. When a body was worn out, it was a simple matter to remove the brain from it and place it in a new body. Thus they had achieved immortality. Ages rolled on, while their strange world drove across the heavens and flashed from star to star.

"AT LAST, though, there came a time when the world of the comet-people seemed threatened with downfall. Their metal bodies, like all of their machines, were actuated by atomic force, produced through the accelerated disintegration of certain radio-active elements. As time went on, however, their supply of these elements became smaller and smaller.

"It became plain that within a short time, as they measured time, they were doomed to extinction, for without the force to run their machines and bodies, those bodies must become inert and useless, and the brain inside of each one must die. It would take long, but it would be sure, and in the end they would all be gone. They must find new sources of such elements, or die.

"In this extremity, their astronomers came forward with an announcement of importance. They had charted the course which their comet-world was following, and had discovered that soon it would pass through a star-system with nine planets. On its way through this system, they stated, the comet would pass close to one of these planets, the one which is our Earth. Their spectroscopic instruments assured them that this planet held great stores of the radio-active elements they needed.

"And so they conceived the gigantic plan of stealing Earth from the Solar System, of drawing it into the comet and carrying it out into space with them. If they could do this, it would furnish them with an endless supply of the materials they needed, and would also give them new lands inside the

comet. So, they set to work and formulated their great conspiracy, a conspiracy to steal a world!

"When the comet had, at length, entered the Solar System, a hundred of the comet-people set out in four great cones, or space-ships, to establish themselves upon Earth and carry out their plan. These cones were driven through space by light-pressure, the possibilities of which force they had long since utilised. Even on Earth, we know that this force exists, and understand a few of its manifestations, though only a few. We know that it is the pressure of the Sun's light that causes a comet's tail to swing always away from the Sun.

"This same force drove their cones through space at will, and they used the principle of it in their destroying white ray. In that ray, light-pressure could be used of such power as to disintegrate the molecules of any object, or it could be used merely to strike a powerful blow, as when Hanley and I had been stunned by it. It was by means of this force, then, that the cones of the comet-people rose from their world and drove headlong, out through the great coma, across the Solar System to the Earth.

"They knew that Earth was inhabited, and it was their plan, on reaching the planet, to find some secluded spot where they could work without fear of interruption. For this reason, they had approached Earth at night, finally landing upon the dark, silent island. Surprised, there, by the presence of Hanley and myself, they had instantly stunned us with the light-ray, but refrained from killing us for their own reasons. They wished to learn as much as possible about our world, and for that reason had spared us, and taken the trouble to get into communciation with us.

"It was thus that we learned the method which they intended to use in pulling our planet into the passing comet. You know that the Earth, whirling around the Sun, is exactly like a ball being swung round and round at the end of a long cord. The Sun is the hand, the Earth is the ball, and the power of the Sun's gravitation is the cord. If it were not for the Earth's motion, its centrifugal force, it would fall into the Sun, pulled there by the latter's gravitational power. And, conversely, if it were not for the pull of the Sun's gravity, the Earth's centrifugal force would cause it to fly off into space at a tangent, just as the swinging ball would fly off if someone suddenly cut the cord.

CHAPTER V

HANLEY'S TRANSFORMATION

"IT WAS just that that the comet-people meant to do: they meant to cut the cord. They were setting up an apparatus that would neutralise the Sun's gravitational power on the Earth. They had learned that the emanations of gravitational force from any body have a measurable wave-length, and that this wave-length is different in the case of each body. The vibrations of gravitational force from the Sun are thus different in wave-length from those of Earth, and it is the same always; the wave-lengths of no two emanations are the same.

"Thus, the invaders could neutralise the Sun's gravitational power on Earth without affecting the power of the Earth itself, or of any other body. They would set up a wave-plant, or vibration machine, which would send out vibrations equal in wave-length to the Sun's gravitational emanations; these would meet and oppose and neutralise the gravitational force of the Sun. In that way, the Sun would no longer exert its pull on Earth, and the Earth, therefore, would fly off into space at a tangent.

"It was the plan of the invaders to do this at a time when the comet was

nearing the Earth, so that when the planet did fly off from its orbit, it would do so just as the comet was passing, and would thus be brought inside the gravitational grip of the great comet itself. The grip of the comet would pull the Earth down through the coma to the nucleus, where it would be received so as to cause it to revolve about the nucleus.

"Of course, the Moon would accompany its mother-planet when it left its orbit, and would be carried into the comet likewise. All life on Earth would be annihilated when it passed through the coma, by the dense and deadly gases there, and thus both Earth and Moon would be at the disposal of the comet-people. And so the Earth would be lured out of the Solar System for all time, and with its riches of minerals and materials, would form a great supply-base for the comet-people, and another world for their habitation.

"This much Hanley and I learned in our written conversations with the leader of the invaders; for it was the leader, we learned, who was communicating with us. And we were dazed with horror. Soon the invaders would have finished that great machine by which they meant to cut off the Sun's pull, and when the comet drew near Earth, the planet would go hurtling out toward its doom.

"We alone knew the peril that hung over Earth, and we could do nothing, fettered and prisoned as we were. Nor was there chance of outside help, for the invaders kept a close watch on the waters around the island, and twice used the light-ray to annihilate small boats that came too near. There was no chance of escape, or of help from outside, and we must remain helpless witnesses of the world's doom.

"It was then that the leader revealed to us the purpose for which we had been saved, and made to us an amazing proposal, which filled me with disgust. He proposed that we cast in our lot with the comet-people; that we become of their kind, and help them in their plans. He had learned that we were both scientists, and knew that, after the Earth had been drawn into the comet, we would be of invaluable aid to them in the exploitation of its resources. So, he informed us that if we would agree to help them, he would confer immortality upon us by removing our brains from our own bodies and placing them in metal bodies like their own. If we refused—death.

"The thought filled me with loathing; the idea of our living brains enduring through centuries in metal bodies. We had been given a few days in which to decide, and as I knew that I would never accept, I saw death looming ahead. But to my horror and dismay, Hanley began to lean towards the idea. As a biologist, I think, he had long been interested in the idea of achieving immortality, of preserving the intelligence beyond the death of the body; and now that he saw the thing within his grasp, he was disposed to accept it.

"I argued with him for hours, trying to make him feel the utter horror of the idea, invoking every argument I could think of to shake him, but all to no purpose, for he was sullen and unyielding to all my pleas. He pointed out that we would die in any case, and that the peoples of Earth were doomed, so that our refusal would in no way help us, or anyone else. So, to all of my entreaties he turned a deaf ear, and when the time came, he informed the leader of the invaders that he was willing to accept their proposition and become one of them.

"THAT afternoon they did the thing. God, what a sight that was! Through the window, I watched them. They set up a metal table on the plateau, and stretched Hanley upon it; then they applied their anæsthetics.

"Near-by lay the metal body which

they had prepared for him. It was the same as their own, except for one feature. Instead of having four tentacle-arms and four legs, it had but two of each. That puzzled me for a time, but it occurred to me that the reason for this difference was that there were no nerve-ends in Hanley's brain with which to control an extra pair of arms and legs: therefore, his metal body had been provided with but two of each.

"I saw their instruments, then, flashing in the sunlight, and when the moment came, they lifted Hanley's living brain from his skull and placed it inside the cubical head. A flash of the light-ray, and his own dead body vanished, while the surgeons clustered around the metal body. At last they stepped back, and a sick horror came over me as I saw that metal body standing erect, moving, walking, obeying the commands of Hanley's brain, inside it.

"From that time on, Hanley was one of the comet-people. Like them, he worked unceasingly on the great machine, directed by the leader, and like them he never seemed to rest, his brain ever driving that tireless metal body. He paid no attention whatever to me; never came near the cabin. He may have been ordered to stay away from it, of course. But I could always distinguish him from the other metal figures, even at a distance, because of the difference in the number of his limbs.

"I had expected death when they finished with Hanley, but I soon learned that a fate far worse lay ahead. The leader visited me once more and told me, out of sheer cruelty, I think, that when their work on Earth was finished, they would take me back with them. Living creatures were very rare on their own world, except for themselves, and I would be a valuable subject for experimentation. Even that news hardly altered the dull despair that filled me.

"The days dragged by, slowly, and the great machine outside neared completion. It looked much like a battery of great turbines; a long row of dark, squat, cylindrical mechanisms joined to each other by an intricate web of connections. Over all of them had been placed a great cover of shining metal, protecting the mechanism beneath from rain and dew, and inset on the front of this cover was the switchboard which controlled the great machine. It was a square tablet of black metal, covered with a mass of intricate controls, switches and levers. At the centre was a single shining lever, much larger than the others, which swung around a graduated dial.

"At the very edge of the plateau, not far from the cabin, the invaders had erected another object, which puzzled me for a time. It was a large, upright screen of ground-glass, or similar material, behind which were some smaller mechanisms, which I only glimpsed.

"This screen was, in fact, a great chart of the heavens, on which was represented the approaching comet and the Earth. The comet was a great disk of green light, and around this central disk was a thin, green circle, which obviously represented the limits of the comet's gravitational grip. Any object inside that thin, green line was inside the comet's grasp, and would inevitably be drawn down into the coma, while so long as it lay outside of that line, it was in the power of the Sun's gravity. In other words, that line was the 'neutral' between the two zones of gravitational force.

"The Earth was represented on the chart by a small disk of white light. Both the tiny white disk and the great, green one moved on the screen in exact proportion to the movements of the Earth and comet in the heavens. How this was accomplished, I could not conjecture, but supposed that the mechanism behind the screen caught the actual movements of comet and

Earth, by means of light-rays or electrical radiations, and reproduced them in miniature on the screen.

"The purpose of the chart was clear enough. It would enable the invaders to time their operations with accuracy, so that the Earth would leave its orbit at the exact moment when its outward flight would bring it inside that thin, green line, and within the comet's gravitational power. Tensely, I watched that chart, and each day I saw the comet and the Earth drawing nearer and nearer, as the green wanderer sped out of the Solar System. . . .

"BY THEN, the work of the invaders was slackening, for the great machine appeared to be finished. At last came the time, just four nights ago, when they finally put it into operation. I saw them gathered around the switchboard, Hanley among them. The leader stood ready, a tentacle grasping the large, central lever. Others were watching the great chart, calculating the positions of Earth and comet.

"I knew that the whole operation must be timed to an incredible nicety, if it were to succeed at all, and I waited as anxiously as they. At last, there was a sudden stir among those at the chart, and I divined that the signal had been given, speeding silently and swiftly from brain to brain. And I was right; for at the same moment the leader, at the switchboard, swung the big lever around the dial, slowly and carefully.

"He had reason to be careful. The difference in wave-length of the gravitational emanations must be extremely minute, and if he were to accidentally neutralise the Earth's gravity instead of the Sun's, if only for an instant, there is no telling what tremendous cataclysm might not occur. But that did not happen, for when he had swung the lever to a certain position on the dial, there rose from the great machine a low humming sound, so deep as to be scarcely audible. Instantly, the leader stepped back.

"The machine had been started. I knew that, at that moment, it was sending forth its own powerful vibrations to meet and oppose and neutralise those of the Sun's gravitational force. The cord had been cut!

"For a time, though, nothing seemed changed. Like the metal figures on the plateau, I watched the great chart for all the rest of that night, but it was towards morning before any change became apparent, and even that was so slight that it could hardly be noted. It was only that the tiny white Earth-circle on the chart was moving a little faster towards the green comet. And, as the hours went by, it moved faster and faster, until by that night I could see plainly that the Earth was already a little out of its orbit, just veering out slightly towards the nearing comet.

"Gathered around the chart and the great vibration-mechanism, the invaders watched the result of their work. And fettered there in the little cabin I, too, watched and waited. But that night, when I had all but reached the blackest depths of despair, I stumbled on something that gave me a ray of hope.

"Much of the time that I spent in the cabin, I occupied myself in searching endlessly for some sort of tool or weapon, but always without avail, for every object that would serve for either had been taken away. But at last, that night, I came across a tiny point of metal that projected from the dirt floor of the cabin, in one of the dark corners.

"In a moment I was digging away at the thing, and inside a minute had unearthed a long, rusty file, which had been buried beneath the floor, with only the tip projecting through the dirt. It was so badly rusted that it appeared almost useless, but the very possession of the thing gave me new life, and after cleaning it as well as I could, I set to work on the shackle around my leg,

muffling the grate of the file by wrapping it with cloths.

"Through all that night I sawed away at the shackle, and when morning came, I was disheartened by the little I had accomplished. The rusty file had made only a shallow notch in the hard metal of the shackle. Yet I knew that it was my only chance, and kept steadily at it, now and then glancing out of the window to make sure I was unobserved.

"Weariness overcame me, and I slept for several hours, waking shortly after noon. That was yesterday . . . and when I glanced out of the window at the great chart, I saw that Earth had leaped half the gap between itself and the comet, and was approaching perilously near to the thin, green line that marked the limits of the comet's grip.

"I knew that, once it passed inside that line, it was the end, for no power in the universe could then release Earth from the influence of the comet. The machine must be smashed, or turned off, before that happened. Frantically, I worked at the shackle through all of that long, hot afternoon.

CHAPTER VI

ESCAPE

"NIGHT came, and the comet flared overhead in awful splendour, waxing tremendously in size and brilliance, its green light falling through my window and clashing with the white brilliance of the floodlights on the plateau. Out on that plateau, the invaders were still gathered in motionless groups, still watching the tiny Earth-circle on the chart, which hurtled towards the comet, now, with terrifying speed.

"From its rate of progress, I estimated that it would have passed inside the comet's grip by the next night; and I knew that, after it had done so, the invaders would enter their cones and leave for their own world at the comet's centre, while Earth passed to its doom in the deadly coma. I must escape that night, if ever.

"At last, shortly before midnight, I had sawn the shackle half through, and with a muffled blow, managed to break it. I crept to the window, then, and cautiously looked out.

"Under the dazzling lights, the metal figures outside were gathered together in two masses around the chart and the machine, sprawled on the ground. None of them seemed to be watching the cabin at the moment, but the little building had but two windows, and both of them faced the plateau. The forest lay but a few yards behind the cabin, and once inside it, I would be comparatively safe; but to get there I must creep from the building in full view of the invaders on the plateau, and beneath the dazzling glare of their flood-lights.

"There was no other course for me to follow, however, so without hesitating further, I gently pried the window open and slid through it, dropping at once to the ground and lying still for a tense moment. There were no sounds or movements from the metal figures around the two mechanisms, so, as stealthily as possible, I began to crawl around the base of the cabin, and in a few moments had reached the welcome shadows behind it.

"I then rose to my feet, and took a swift step towards the forest, a few yards away—and I stopped short. Fifty feet to the right of me, a single metal figure had suddenly stepped into view, confronting me, a light-ray tube held in its tentacles and pointing towards me. And it was Hanley!

"Hanley, or that which had once been Hanley's brain and soul, cased in that body of metal. I recognised him at once, by reason of his two tentacles and limbs; and awful bitterness came over me, for I had failed. Instinctively,

though, even at that moment, I staggered towards the trees ahead, waiting for the death from behind. In a moment would come the flashing ray, and oblivion. . . .

"But it did not come! With a sudden thrill of hope, I began to run, and within a few seconds had passed into the dense darkness of the forest. I had escaped, though for the moment I could hardly credit it. I glanced back towards the plateau, and saw the figure of Hanley still standing there, silent, unmoving, the deadly ray-tube still held in his grasp. He had let me go.

"BEFORE I could understand what had happened, there came a sudden flurry of movement across the plateau and over my shoulder I saw a dozen dark shapes gliding smoothly across the clearing on my track. They had discovered my escape, and were after me.

"Frantic as some hunted creature of the wild, I raced on through the forest, stumbling on projecting roots, hurling myself through patches of briars with mad haste. And swift on my trail came that inexorable pursuit, drawing nearer and nearer to me, turn and twist as I might. I was rapidly getting out of breath, and knew that I could not long compete, in speed or endurance, with the tireless metal bodies behind me. At last, I saw the ripple of water ahead, and a plan, a last expedient, flashed into my mind.

"I stumbled on until I reached the water's edge, where the thick forest extended right down to the island's shore. Swiftly, I searched the ground around me, and in a moment had found what I sought—a large, thick section of deadwood. Grasping this, I threw myself behind a clump of bushes a few yards away, and waited for my pursuers.

"In a few seconds, they came crashing through the underbrush on my track. I waited a moment longer, until they had almost reached me, then hurled the piece of wood out into the water, and at once flattened myself again behind my screen of bushes.

"The wood splashed into the water at the exact moment when my pursuers, some five or six in number, reached the water's edge, not ten feet away from me. At the sound of the splash, the brilliant light-ray instantly flashed forth from their weapons, churning the waters of the lake with its disintegrating force. For perhaps a minute this continued, and then they snapped off the ray, and waited. There was silence, except for the washing of the troubled waters of the lake.

"I crouched lower behind my flimsy shelter, holding my breath, but after a while the metal figures turned away, and I heard them retracing their way through the forest. My trick had worked. For half an hour I lay there, a little dazed by the swift action I had just passed through. Then I rose, and began to make my way stealthily along the shore.

"It was my idea to get to our little motor-boat, which we had kept in a tiny cove, and to make the mainland in it. If I could do that, I might be able to obtain help and return to the island, make an effort to destroy these invaders and smash their machine. But when I got to the cove, I found only a few fragments of the boat. It had been destroyed by the invaders!

"To me, that seemed the end—the end for all our Earth. There was no chance left to give warning, now, for I knew that by the next night Earth would have passed inside the comet's grip for ever, and it would all be over. Through the rest of the night—our last night—I wandered over the island, a little mad, I think, and when this morning finally came, it found me at the island's northern end.

"I lay there, trying to plan out some last course of action, when the chugging of a boat roused me. I hurried to the shore, just in time to see your boat destroyed by the light-ray from the

plateau, and your companion killed. I saw that you had escaped—though the watchers did not—and waited until you got ashore.

"And that is all. . . . Over there, on the plateau, stands the great machine which is sending Earth hurtling into the comet, while the invaders there watch and wait. A little longer, a little nearer, and Earth will have passed inside the comet's grip, and then it will be hours only until the end. The comet overhead, growing larger and larger, nearer and nearer; and then the deadly gases of the coma, bringing swift death to all on Earth. And at the last, the comet racing out of the Solar System with the Earth inside it, flashing out into space, never to return; plunging across the universe for all time, with its stolen, captive world!"

THE hoarse whisper of Coburn's voice ceased, and for minutes the two men sat in silence. The whole island seemed unutterably silent at that moment, except for the wind gently rustling the leaves around them, and the drowsy hum of insects. Through the foliage above, the sunlight slanted down in bars of bright gold.

Marlin was the first to speak.

"The Earth!" he whispered chokingly. "The whole Earth! What can we do—we two——?"

Coburn was staring into the forest, scarcely listening. When he spoke, his voice was deadened, toneless.

"Nothing, now," he said. "We must wait—until to-night——" A little flame of hope leaped into his eyes, and he turned quickly to Marlin.

"To-night there is a chance," he whispered. "A chance in ten million, but a chance. If we could get to that machine——"

"Smash it?" asked Marlin. "Turn it off?"

Coburn nodded slowly. "We'll try," he said. "To-night, when it's darker. If I had a single moment at that switchboard——"

He broke off suddenly, as once more there came through the forest the clang of metal against metal. His eyes held Marlin's.

"Getting ready," he whispered. "Getting ready to leave, to-night. They'll wait till Earth has passed that neutral line, until it's in the comet's grip, and then they'll destroy the machine and leave in the cones."

Crouched there, they listened, silent, white-faced, tense.

Always afterwards the remaining hours of that day were to Marlin a vague, half-remembered time. Hot and hungry, and very thirsty, he lay beside Coburn, speaking little, and that in whispers, listening fearfully to the sounds that drifted to their ears from the south. As the day waned, the events through which he had just passed, the things which he had been told, became blurred and confused in his brain. Once or twice he caught himself wondering why he lay thus in hiding, and brought himself back to reality only with a sharp effort.

A few hours more, and the sunset flamed low in the west, painting the sky with a riot of brilliant colours. Marlin strove to remember a sunset he had once seen, with a great blue lake and a neat, white village in the foreground. How long ago had that been? Days—months—years?

While he struggled with that thought, the gold and orange and crimson were fading from the sky above, and they awaited only the darkening of the long June twilight. Its grey deepened to a darker grey, and then to black. Then, up from the eastern horizon, there soared colossal bars and banners of iridescent light, sweeping across the heavens like an aurora of blinding green.

Prepared as he had been for the sight, Marlin gasped when the comet wheeled into the heavens, a vast ocean of green fire that crept smoothly west-

ward across the firmament, and that dripped down a ghastly, throbbing radiance upon the world. It was as if the whole sky were flaring with emerald flame.

Coburn stood up, his burning eyes fixed upon the comet, his face death-like beneath its green, unearthly light. He turned to Marlin, who had risen beside him.

"I am going ahead to reconnoitre first," he explained, "and I want you to stay here while I'm gone. We have a few hours at least, I think, and before we can plan any course of action, I must know what is happening on the plateau."

"You won't be long?" whispered Marlin.

The other shook his head. "Not more than a half-hour. But don't leave this spot until I come back."

Marlin whispered his assent, sinking to the ground again while Coburn glanced quickly around, then moved stealthily into the forest towards the south. In a moment, he had been swallowed up by the shadows.

CHAPTER VII

AT THE EDGE OF DOOM

LEFT alone, Marlin resumed his prone position on the ground, not venturing any movement. Except for the steady chirping of crickets and the deep croaking of distant frogs, the forest around him was very silent. He turned, after a moment, and gazed up into the flaming heavens, until his eyes were dazzled by the splendour of the waxing comet. There came to him, dimly, some realisation of what that flaming thing above must be doing to the world of men, of the pit of fear into which it must have precipitated all Earth. The thought steadied him a little, and his jaw tightened.

Abruptly, Marlin realised that Coburn had been gone for a longer time than he had mentioned, and swift anxiety and fear chilled him. Where was Coburn? Had he been captured? He tried to reassure himself, to force down his misgivings, but with the passing of every minute his fear deepened. When an hour had passed, he rose at last to his feet, looking anxiously around. He hesitated for a moment, then uttered a low call.

"Coburn!"

No answer came back to him, except a rustling echo of his own voice. A ray of green light from the wheeling comet above struck down through the canopy of leaves and fell upon his white, anxious face.

"Coburn!"

Again he called, louder, but again his cry went unanswered. Marlin could endure the suspense no longer, and creeping from his hiding-place, he began to make his way southward through the forest, as silently as possible.

Slowly he moved forward through the dark forest, which was pillared here and there by shafts of green radiance from the comet overhead. He stumbled across green-lit clearings, over tiny, gurgling brooks, and through dense thickets of brush and briars. Twice he crossed steep little ridges, and once he blundered across a soggy patch of swamp, where his feet sank deeply into the treacherous ground, and where snakes rustled away from him through the grass on either side.

Still he stumbled on, breath almost gone, heart near to bursting. It seemed to him now that he must be very near to the plateau at the island's centre.

But as he emerged from a dense tangle of brush and took in the sight ahead of him, something like a sob came from him. He was standing at the edge of a narrow, sandy beach, and beyond it stretched away the rippling, green-lit lake. Instead of heading toward the island's centre, he had lost his way, and had spent more than an

hour blundering across the island in the wrong direction.

He dropped to the ground, half-dazed by his efforts, striving to get his bearings. He thought of calling to Coburn again, but dared not do so, for he could not know how close he might be to the plateau. Nor could he know where the plateau lay, there on the strange, dark island. If he were to return to where Coburn had left him, then he might be able——

Clang!

It rang across the island, loud and clear, a single short, metallic note. Marlin sprang to his feet. He stood motionless, listening intently. In a moment came another sound; a deep, powerful droning that waxed in intensity for a moment, then continued without change. At once, Marlin moved off again into the forest, heading unhesitatingly to the left. The sound, which could come only from the plateau, had given him his bearings.

Hastily he pushed on, his weariness forgotten for the moment, his throat tight with excitement. Far ahead he made out a thin, white light that filtered feebly through the forest; a pale light, very different from the green radiance of the comet overhead. And as Marlin pressed on towards it, the droning sound came to his ears louder and louder, nearer and nearer. He slackened his pace a little, moving more stealthily.

CLANG!

Again it came, that single ringing note, sounding louder in his ears than before as he drew nearer to the plateau. And again, following it, there rose the deep droning sound, combining with the first to fill the air with a terrific humming as of ten thousand dynamos.

The white light ahead grew stronger and stronger, until at last there rose before Marlin a steep little slope, at the top of which the forest ended, and from beyond which came the white radiance. He flattened himself on the ground, crawled stealthily up the slope, and paused at its edge behind a slight thicket of bushes. Cautiously, he parted the bushes and peered forward.

BEFORE him lay the plateau, a broad, grassy surface perhaps a quarter-mile across. Some fifty feet above its centre there hung in the air two great shapes, from which came the droning sound; two gigantic cones of metal, and attached to these were flood-lights that drenched all the plateau with their white light, which even there was pale in comparison with the throbbing radiance from the comet overhead.

At the centre of the plateau, two similar cones rested on the ground, in the side of each of which was an oval opening. Even as Marlin first glimpsed these, the opening in one of them closed, with the loud clanging note he had twice heard. Then, with a powerful droning roar, the cone rose smoothly into the air, to hang beside the two others there.

On the plateau was left the single great cone. Beside it stood a long, low structure, shining brilliantly beneath the double illumination from cones and comet, and bearing on its face a black tablet covered with knobs and levers, with a single large lever and dial at its centre. It was the neutralising machine, Marlin knew; the machine that was cutting off the Sun's pull, that was sending the Earth hurtling out towards its doom in the comet.

Around this machine was grouped a score of grotesque, metallic figures, looking strangely spider-like with their multiple tentacles and limbs, and with square, unhuman heads of metal in which were set the glowing circles that were their eyes. A deep, shuddering loathing shook Marlin as he saw them for the first time.

He turned his gaze to the right and saw, at the edge of the plateau, the low, rough cabin, and beyond it, the great

chart which Coburn had described to him; a large ground-glass screen on which moved the small white disk that was Earth and the great green disk that was the comet, the latter encircled by the thin green line that marked the limits of its gravitational grip. And as Marlin's eyes fell upon it, his heart leaped uncontrollably. For the Earth-disk on the chart was only a few inches from the thin green line around the comet, the neutral between its gravitation and the Sun's. And swiftly that tiny gap was closing!

For the first time, the significance of the great cones hovering above struck Marlin. The invaders were leaving, their work accomplished. In a few moments, Earth would have passed for ever inside the comet's grasp, and they could destroy the great machine with a flash of the light-ray and speed off in their cones, leaving Earth to its doom. It was the end!

Marlin's brain was whirling, his hands trembling; but he hesitated for only a second, then crawled slowly forward from behind his flimsy shelter. Out over the plateau, beneath the glaring light from above, he crawled on towards the machine, half-hidden by the tall grass that covered the plateau. For ten yards he crept forward, then stopped, and ventured to raise his head a little and look ahead.

The last of the metal figures on the plateau were trooping into the remaining cone, through the opening in its side. There remained only four or five, who were standing beside the great machine, close to the switchboard; and in the same moment that Marlin saw these, they discovered him. He saw them turning, and evidently gazing straight towards him. A moment Marlin crouched there, petrified, and then he rose to his feet with a mad shout, and raced straight across the plateau toward the switchboard of the great machine.

Even as he leaped to his feet, two of the little group at the machine flashed towards him, with incredible speed, and before he had covered a dozen paces, they were upon him. He felt himself gripped by cold, coiling tentacles, and thrown to the ground. For a moment he struggled frantically, then heard a hoarse cry, and wrenched his head up to see a dark shape speeding across the plateau from the opposite edge. It was Coburn!

Twisting in the remorseless grip of the two with whom he battled, he had a flashing glimpse of Coburn racing toward the machine, and then he uttered a cry of agony. From one of the hovering cones above, a shaft of the light-ray had flashed down, and struck Coburn squarely. A moment he was visible, aureoled in a halo of blinding light, and then he had vanished. Marlin closed his eyes, ceased his struggles. He felt himself jerked to his feet by his two captors.

He opened his eyes, then, and stared dazedly over towards the great chart. The Earth-disk was less than an inch from the green neutral-line. It was all over. He and Coburn had shot their feeble bolt, and failed. He felt himself being jerked forward towards the last cone, sagging between his captors in dull despair.

BUT what was that sudden crash of metal at the machine, that rush of movement there? Marlin's head snapped up; his heart filled with sudden hope. A single metal figure had sprung out of the group beside the machine, a figure oddly man-like, with but two tentacles and two limbs, that leaped towards the switchboard of the great machine.

"Hanley!"

He screamed aloud, and at the same moment was released, thrown to the ground by his two guards, who also raced towards the switchboard. From the cone on the ground there poured forth a stream of metal figures, while the droning giants above dropped

swiftly down towards the machine. Hanley was beside the switchboard; had reached up with a swift tentacle, and grasped the great lever at its centre.

From cones above and metal figures below, a dozen shafts of the brilliant light-ray flashed towards him. But in the fraction of a second before they reached him, he had wrenched the great lever far around the dial, and the next moment, a titanic explosion rocked the island to its foundations. Marlin was knocked backward by a terrific gust of force, and had but a single flashing glimpse of all at the centre of the plateau—machine and metal figures and hovering cones—shooting skywards at lightning speed.

He staggered to his feet, dazed, half-blind, reeled drunkenly forward, and then stopped short. For at the centre of the plateau there yawned a terrific gulf, a vast pit torn from the earth in a single instant. Cones and machine and metal beings had vanished utterly in that tremendous cataclysm, when Hanley had swung the lever and neutralised Earth's gravity, for that single moment and at that single spot, instead of the gravity of the Sun.

Marlin staggered along the edge of that mighty abyss, towards the great chart-screen at the plateau's edge. It had been twisted and bent by that tremendous detonation, but it still functioned, and on it still moved two disks representing Earth and comet. Marlin stumbled closer, his whole being concentrated upon the screen. The tiny Earth-disk was still creeping forward towards the comet; moving slower and slower, but still moving.

Slower, and still slower, it moved. Now it was but a half-inch from the line—a quarter—an eighth. By then, it was hardly moving. It had touched the line, now, was hovering at its edge. Hovering as the Earth was hovering, at that moment, at the neutral between Sun and comet; hesitating, tottering. . . . And then, Marlin cried aloud.

For the white disk was moving back!

Slowly at first, and then faster and faster, the Earth-disk was falling back from that thin, green line, swinging back into its usual orbit; pulled back again by the Sun's far-reaching power, back from the very edge of doom.

Marlin raised his tear-stained face towards the great comet above, a single vast sea of green flame, immense, titanic. It was passing, now; passing out of the Solar System for all time, its one chance of stealing Earth gone for ever. He shook his fist at it, in mad defiance.

"You lost!" he screamed, in insane rage and triumph. "Damn you, you lost!"

* * * * *

It was twilight of the next day when Marlin left the island, paddling slowly out from it on the crude little log-raft which he had fashioned. Shadows of dusk were falling upon the world, deepening into darkness. In the west, there trembled forth a star. Still he crept on.

Night; and up from the east there rose once again, the comet. Marlin lapsed in his progress at that, gazing up at it. Small and shrunken and harmless, it seemed now, its evil glory fast waning as it thundered out into space on its appointed course. He wondered momentarily what frenzies of thanksgiving were shaking the peoples of Earth to see it thus receding, to see themselves thus snatched back from the very gates of death.

He turned, for a moment, looking back towards the island. It seemed dark and small, now, a low, black mass of land that stood out indistinctly against the pale-lit waters. Only a tiny speck of land, there in the great lake, and yet on it had been decided the fate of a planet. On it the comet-people had played their great game, with a

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From A Distant Era She Came, Searching Through The Centuries For The Secret That Would Save Her People From Extinction

AFTER A MILLION YEARS

By J. M. WALSH

Author of *When The Earth Tilted, Vandals of The Void, etc.*

AUTHOR'S NOTE

ADMITTEDLY, time-travelling is a subject for theorising. Admittedly, also, it is a subject full of paradoxes. I have tried in the following story to deal, in a necessarily brief fashion, with such paradoxes as arose in the course of the narrative, but there may be others that I have omitted.

Neither have I tried to deal with the aspect which a future civilisation may present to a visitor from to-day. That is pure speculation. Some may say one thing, and some another. Human nature being what it is, however, the chances are that civilisations will rise and fall, as they have done in the past; that discoveries will be made and lost, and made again. That much I have suggested in passing.

I have not enlarged on the mechanical side of time-travelling. The mechanics, at least in theory, are fairly well understood by all who are familiar with this kind of fiction. Once assume that they can be put into practice, and the rest is easy.

Whether the subject has ever before been treated from precisely the angle I have taken, I do not know. I wrote simply to clear my mind of one idea that I believe has never been elaborated before—that time must be accounted for.

To put it more plainly, if I leave here, for instance, at five p.m. on Wednesday, travel a century into the future, and remain there exactly one week, I do not believe that I can return precisely to my own era at five p.m. on the day I started. I have lived a week in the interval. That week must be

docked from the period of my existence.

When I return I shall come back, perhaps, to the exact hour of the clock, but I shall be a week older. My calendar will show that seven days have passed from my life. I cannot live those seven days over again; that much is clear. This is not to say, admitting the possibility of time-travelling, that if I am to have a life-span of seventy years, I may not spend thirty of those years in the twentieth century and the remaining forty in the twenty-fifth century. I cannot live the whole seventy in both centuries; that is all.

* * * * *

I AM the last man; the last of all Earth's teeming millions to be left alive on this once populous planet. I have seen this world, woefully, incredibly aged, bleak and desolate, writhing in its death-throes—yet I have escaped to tell this tale.

So much I write, then turn to look out of my window on the busy, crowded street below. I hear the hum of traffic and I see the movements of people; many thousands of them. I know that I am somewhere in the centre of a city of eight million souls. Not one of them realises the doom ahead. If they did, it would not matter: they will all be dead and gone long before it comes to pass.

Realising all this, my story seems well-nigh incredible, even to myself, who went through it all. So, I can hardly expect it to be believed. But for two things, I should fancy that I had dreamed it all; that I had been the victim of some particularly vivid nightmare. But no dream, no nightmare, could possibly linger with its details so sharply etched in my mind.

And, as I say, there are two things left me from that time; two proofs—if one can call them such—that my experience was not altogether the product of a disordered mind. Why such an adventure should have come to me, of all men, I cannot say. It came—that is all—and I must record it as best I can.

My name is John Harling; my calling that of a real estate broker, surely a prosaic profession. That much, no doubt, is proof for the credibility of my story: my clan is unimaginative; we cannot invent such tales. But let that rest. . . .

My story opens out-of-doors on a summer's day in the third decade of this, the twentieth century. I was, to put it plainly, hiking, dressed in the conventional costume for such a pastime, my rucksack on my back, a staff in my hand. I was making my way along one of those deserted paths among the leafy Surrey hills, a way not yet invaded by the ubiquitous London motorist.

The crest of a rise lay before me. I

How convenient it would be if we could travel through Time, either backwards or forwards, to find the solution to some problem which baffled our own generation? Can you imagine our remote descendants, faced with universal dissolution and unable to find any way out, sending a messenger back to our epoch to recover some lost secret that might mean salvation for them? It is a fascinating idea, if a paradoxical one, that the people of different ages might be able to influence events which have either happened already or have yet to come to pass; and our author gives us a story on this theme which provides much food for thought. We shall be glad to learn what our readers think of his arguments.

had nearly reached it, and in my mind there was forming already the pleasant picture of a halt, a drink and a bite beneath the shade of the trees, before I proceeded on my way. There was nothing, then, to tell me that a million years would pass before I drank or ate again.

Abruptly, I saw a flash. Lightning, I thought—out of a clear sky, at that; and I wondered why I had heard no peal of thunder. Then, on the heels of the flash, some branches crashed with a rending sound, as though some heavy object had torn its way through them. A lucky escape for me! The lightning might easily have struck me, instead of that tree towards which I stared. Then I rubbed my eyes. What I saw was so different from what I had expected.

It might have been the original fiery chariot from Heaven. Such was my first, confused thought, for even at a glance, I could see that it was no vehicle with which I was familiar. It seemed much like an aeroplane, minus the wings, yet there was a subtle difference. The body was slightly streamlined, but the nose and tail were blunt, with a cluster of sinister-looking tubes fore and aft. From these a thin, golden vapour rose in lazy wisps.

The machine itself—I could hardly think of it as anything else—was of a kind of metal weird and strange. It was the green of an emerald, so that I might have mistaken it, at first, to be some sort of crystal; but I learned, later, that it was actually metal. The length of the machine was studded with bosses, seemingly of quartz: windows, perhaps, or doors. Their exact function was not evident at the moment.

I stood and stared, even then not quite convinced that my senses were not playing me some strange trick. Then, gingerly, I reached forward with my staff. The machine seemed real enough. More daringly, I tried it with my hand. It was warm to the touch, yet not unpleasantly so.

A DOOR opened in the machine, a section of the side slowly sliding away into the hull; and I waited, wondering what was to be revealed. I think I was more curious than frightened, and the one idea in my mind was that this, undoubtedly, was a visitant from some other planet. To me, first of all men, was to be given the privilege—or the horror; which, I knew not—of meeting the strangers.

As the door slid gently open, speculation after speculation raced furiously through my mind. I tried to picture a hundred different and alien forms of life, any one of which it might be my lot to view. But I was wrong.

One person only stood framed in the opening, a being in human form. More staggering still, it was a girl; a junoesque figure, clad in something that looked oddly like chain-mail, though it was golden and it seemed to glow a little. The head was bare, but I saw that she held some sort of a helmet in one gloved hand.

I am no weakling; I am built, if anything, on the large size, without unnecessary flesh. But this girl was every inch as tall as I, though, naturally, better proportioned. While we stood and stared at each other, I had the impression that she was quite as surprised at my appearance as I was at hers, and each of us was fumbling for words adequate to the situation.

Then she spoke. It was a soft, musical voice in its way, though it held a hint of power that I did not like. Had she spoken in some language utterly unintelligible, I would not have been at all surprised; the fact that she was using English of a sort—queer, distorted, and to my ears, archaic—was more astounding. Yet it was not hard to follow; one could sense the drift of what she was saying.

Actually, she was asking me what year this was. I told her—1939. She frowned a little.

"I have made an error in calculation," she said; "but a few years out

in a million is not so much, after all."

"A million?" I gasped. Then: "Who are you? What do you mean? Where do you come from?" I asked, all at once.

She smiled a little, as one of superior wisdom might smile to a child.

"I am Leela Zenken," she said, simply, "and I have not come from anywhere—in space. But, in time, I have come from an age a million years ahead of this."

"In that thing?" I said, taking a step forward. She nodded. We were becoming more intelligible to each other, now, our pronunciations seeming less odd.

"Yes. A time traveller; that is it. But is not this London?" She stared about her at the green trees.

I shook my head. "You are perhaps twenty miles from the nearest part of Greater London," I told her. "It doesn't extend as far as this—yet. Perhaps in fifty years——"

She did not wait for me to finish, but darted inside the machine, was gone a few seconds, and returned.

"That is it!" she said, breathlessly. "An error. Fifty years out in time, and thirty feet in space. In my day, the land—this point—is that much higher. But you—what are you; what do you do?"

I told her. Though, at first, she did not understand the function of a real estate broker, she did at length; and she did not seem so pleased.

"I had hoped for, perhaps, a scientist." She was watching my face as she spoke, and some passing shadow must have given her a wrong idea of what was in my mind. "I mean," she added hastily, "I wanted one who would not discredit what he cannot understand."

It was all Greek to me. That some object lay behind her words I did not doubt, but at the moment, it was not apparent.

"What, exactly," I said, "do you want, and what is it you hoped to do?"

HER answer was evasive enough, in one sense.

"I had hoped to reach the year 1985," she said. "My reasons——" She waved them aside, unuttered, perhaps because they were no concern of mine. "It is a strange world to me; a strange time, a strange people. But we seem to understand one another. If this had been 1985, no doubt you would have helped me."

One idea after another chased through my mind. After all, even though it was not 1985, why should I not help her? I was young, unattached, with no relatives, no one but myself to worry about . . . and this was adventure, of a sort that I might never come across again.

"Why shouldn't I help you now?" I said, greatly daring. She looked me up and down.

"You are of the wrong age," she said, deliberately. "I go fifty years ahead."

"But the people of fifty years' time should not be so radically different from what they are to-day," I protested.

"That is true. I might, after all . . ." She looked back again into the interior of the machine, thought for a moment, then: "Come," she said.

I had little or no idea what was in her mind, but I obeyed her invitation and stepped inside. No sooner was I in, than she touched a lever and the door closed. She touched another lever, and there came a roar of sound from outside.

"What are you doing?" I asked bluntly.

"Raising the machine," she said, calmly. "I miscalculated before. It has taught me a lesson. In the years, the land has risen. If we went back to my own day, we might arrive to find ourselves thirty feet under the earth. In fifty years' time, who knows but that we might come to rest inside a building, with disastrous consequences?"

"Then we are not yet travelling in time?"

"No; only rising. It is better to do the travelling in free air."

"I see." I bent over the bank of keys and dials in front of her, and tried to make something of their arrangement, but I could not. The theory of time-travelling I had read of, vaguely: the idea of time being like a river. One could travel with the current, drift from source to mouth. Mechanically, one could quicken one's speed on that river; beat the drift of the current, as it were. The faster one moved, the farther behind would be left the particular patch of water that surrounded the boat when one started. Conversely, the boat could travel against the current.

That much, admitting the analogy between the flow of time and the flow of a river, was clear enough. The mechanical means necessary to achieve this result were a trifle more complicated, however. Her explanation of it all was necessarily brief. Some of it I grasped, and some I did not. In many respects, the science of her age was couched in terms unintelligible to me.

She cut her explanation short. "Are you ready? Then please sit down." She pointed to one chair, and seated herself in the other. "We will start our flight through time. Not long; only fifty years."

She leaned forward, and set a pointer on one of the dials, then pressed a button immediately beneath it. The machine seemed to behave crazily. I had an impression of walls whirling and dissolving, and I fancied I heard a stifled cry from the girl. Then . . . nothingness.

I CAME back to myself abruptly, with a growing sense of strangeness, a feeling that all was not as it should be. The girl herself had slid to the floor; her head was resting against the back of the chair, and her eyes were closed. The bank of keys ahead of her looked oddly twisted; the glass stuff of some of the dials had broken, and everything looked crushed and crumpled as though it had struck heavily against something.

But the machinery could wait. I turned to the girl, wondering how I could revive her, but she saved me the trouble. Her eyes opened, flickered, closed again; then, with an effort of will, opened once more, and remained open.

She sprang to her feet with a little cry, glanced at the dials, then rushed to one of the port-hole-like objects and stared through it. She remained there for some time. What she saw, I do not know, but when she turned back to me it was with an expression of consternation on her face.

"I have failed," she said. "But the fault is not altogether mine. First, my original miscalculation, then the jolt the machinery received when I landed in your era; both together may have caused it."

"Tell me," I said, with a sense of tightness about my heart, "just what has happened."

She looked me squarely in the eyes, and—I liked this—though she felt the fault was hers, she did not flinch before my gaze.

"It is this," she said, a trifle unsteadily. "I am back here in my own age, and you with me, a million years ahead of yours. The machinery did not function as it should have done. The moment I pressed the lever we were shot, with an extreme time-velocity, back to the point from which I started."

"Well," I said, for one age seemed quite as good as another, now I had taken to time-travelling, "I don't see that it matters much, as far as I am concerned."

"But you don't understand," she said quickly, with consternation in her voice. "Unless I can manage to repair the machinery, which I doubt, you are marooned in time, a million years ahead of your day. That in itself might not matter so much to you, or to me, were

it not that the days of this Earth, which is the home of us both, are numbered. Is that not sufficiently appalling for you?"

It was. I sat down heavily, and stared at her unbelievingly. For the moment, I did not know what to think. The prospect was too stupendous for me to take it all in. She left me to my thoughts.

In a little while, I saw that she was opening the door that led outside the machine, and she beckoned me to come with her.

"But first," she said, "you must put this on." It was a suit similar to the one she was wearing, designed, I learned, to protect the wearer against any extremes of cold that might be met.

Something of my numbed state I had put down to the shock which her announcement had given me. Now, I began to realise that the air was cold, almost like the blast of a refrigerating chamber. Perhaps the Earth was passing through another ice-age. That may have been what she had meant. Or perhaps the planet had tilted again, as it had already done more than once in its history, and the poles had shifted. I did not know. I could only wait and see for myself what had happened. At least, she made no move to enlighten me then, but instead seemed all impatience to proceed with whatever business she had in mind.

We stepped out of the machine. I had expected to find myself in the open air, but instead, looking up, I saw that we were in a vast building made of some transparent substance like glass. The air in it was keen, almost icy, and I looked in vain for signs of life. We two seemed the only human beings alive.

The girl did not speak, but merely motioned me to follow her. We passed through the huge building to one section of it that had been partitioned off into rooms. Since they, too, were made of the same glass-like substance as the rest of the building, it looked as though the divisions had been made more for the convenience of work than for the sake of privacy. Despite the warmth given out by the electrically-heated suits we were wearing, the girl shivered a little.

"It's colder than it was," she said in a low voice. "The power must be giving out, the heaters running down. I pray nothing has happened. I have been away so long . . ."

"Why? What does it all mean?" I asked.

"Presently," she returned. "It is a long tale. I cannot tell it all to you, now. First I must learn what has happened."

WE CAME to a room. The floor was bare, but the walls were covered with a profusion of dials, keys, and plates not unlike television screens. She studied the apparatus carefully for some seconds, then made some adjustments with switches and levers. One of the television screens glowed into life, and I became aware that I was looking at a vast building, similar in some respects to that which we were in.

She made other adjustments, localising the view, so that we were looking at one particular section of the building, vastly magnified. It was full of people; men and women dressed after the fashion of the girl by my side. They were sprawling about in all manner of attitudes, but every one of them was dead, frozen. The cold of space had crept in and killed them where they lay.

An hour or more we spent there, while the girl searched one screen after another, the television eye roaming from one point of the globe to another, and always with the same result. Nowhere on the whole Earth was there life! It was a dead world. . . .

At last, with a little moan, she turned away, then dropping abruptly to a crouching position on the floor, buried

her head in her hands and began to sob.

After a million years, the sex had changed but little. I caught her by the arm and raised her, a little roughly, perhaps, but I felt she needed to be shaken out of her despair.

"Tell me," I said, "what has happened. I am still very much in the dark. I think it is time that I should know."

She faced me, with burning eyes. "It is all my fault," she declared vehemently. "I was the last hope of my race, and I have failed . . . lamentably."

"But how? All may not yet be lost. Perhaps I can be of some help. Who knows?"

"I doubt it," she said, almost sullenly; "but it is right that you should know. I have brought you here. It is for you to judge me."

With that she started her tale, making it, under the circumstances, necessarily brief. Some of what she said I understood and some I did not. In many ways, the science of her age was a million years ahead of ours, and yet they had forgotten many of the things we know.

It was a tale of a world suddenly faced with the prospect of dissolution. The Solar System, swimming into some uncharted reach of space, encountered a stretch of unknown substance, a gaseous entity, a hole in space—no one seemed able to say, with any degree of certainty, just what it was—that possessed the singular power of intercepting the life-giving rays of the Sun.

"Then," I interrupted, "it is not a case of a dying Sun? The Sun still lives?"

She nodded. "Look," she said, and pressed a button. One of the television screens came to life, and I found I was looking at the sky, not materially changed from that which I had known. The Sun was climbing towards the zenith, no smaller, no larger than I remembered it, but it was a sickly red in hue. I could look at it without hurt to the eyes; I might have been regarding it through heavily smoked glasses.

"Go on," I said. I was beginning to understand a little.

She went on. This unknown element, a substance with the power of shutting off the heat of the Sun in much the same way that a lead shield will cut off the emanations of radium, augured death for the Earth. Time was short. From the day the fantastic properties of this unknown element had first been discovered, scarcely two years were left, before the curtain would be drawn completely between the Sun and its family of planets.

The scientists of the world were mobilised. Some suggested one thing, some another, but none of their suggestions were of any practical help. In the million years that had passed since my day, secrets had been discovered and lost again, inventions made and destroyed. There had been conflicts between the nations, between the inhabited planets, even; civilisations had risen and perished; a graph of human progress would have shown a series of alternating peaks and depressions. Old records that might have been of use had been lost, or destroyed, whenever the red lust of destruction had been let loose.

IT NARROWED down to this in the end: to save humanity, some means of replacing the Sun's heat must be found. The desperate need spurred men on to further efforts, the while the glass-roofed cities were built, in the hope of staving off the final calamity for years if all else failed.

Old records, such as remained, were feverishly searched. Mention was made in them, from time to time, of the discovery of a principle of atomic energy, light- and heat-giving. If such a thing could be re-discovered, the world would be saved, for it was felt that the blotting-out of the Sun's power was only temporary; that in the course

of time the Solar System would have passed out of the area of malefic influence.

Feverish work, almost to no purpose. But Leela Zenken had her own ideas. Her mind ran on the possibilities of time-travelling. If she could construct a machine that would take her back through the myriad years, she might be able to make contact with one or other of those men of the past who claimed to have discovered the principle of atomic energy.

For a time, she was laughed at. For time-travelling was but a theory then, as now. The mechanical difficulties seemed insuperable. But she worked away, making this experiment and that, failing always, yet always seeming within measurable reach of success. And at last it came. She discovered the vibratory rate necessary to make travelling through time a feasible proposition.

Yet even then, much remained to be done. She must search backward through time, a long and wearying process, for the data on which she had to work was meagre. Some of the alleged discoverers of the power she sought must have been charlatans, since there was no record of their discoveries ever having been put to practical use—an unthinkable thing, had they done what they claimed. In this, she overlooked one solitary possibility.

Her search began. She left her world almost in despair: so many things had failed that they had little faith in this last hope. She came back through time, pursuing her enquiries. But the people of other ages treated her badly. She met with incredulity, contempt, derision; everything but belief and help. In some eras, she was even regarded as a mad-woman.

Once, during one of the interplanetary wars, she was treated as an invader, and barely escaped without injury. The machine itself was slightly damaged, before she could get it to start.

At length, she came across one item of information that looked explicit. A scientist in the year 1985 had made the discovery she sought. His word had been doubted; he had been jeered at, and when at last he had succeeded in convincing the world, his experiments were regarded as too dangerous to be allowed to continue. In a fit of anger, or because of broken hopes, he destroyed his apparatus, with everything that could throw any light on what he had done, and ended by destroying himself and his laboratory.

That, it seemed, was what actually happened, though popular account had it that an experiment had gone wrong. And to Leela, it appeared that if she could reach the man while he was in his first flush of enthusiasm, before he found his invention and its possibilities ignored, she might get the formula from him, might even persuade him to return with her.

But the damage to her machine had thrown her calculations out of gear, and instead of reaching 1985, she landed in my year, as I have described. She could not face the prospect of travelling alone again, and the need for company was what actually decided her to take me with her.

SEVERAL points, made by no means clear to her, presented themselves to me.

"All is not lost, yet," I tried to console her. "Perhaps, if you can repair the machine, you can travel back again, find the man you sought, and set your return here for a date before the others have perished."

She shook her head. "One factor I have overlooked," she pointed out. "The past is immutable. I cannot go back and change the order of things. They have happened in a certain way. I cannot make them happen in any other. The future, yes; that I can influence. Events yet to come are still in a state of flux. The future can be

moulded; but the past, no.

"To make it clearer, there is no record that I ever reached that scientist of the year 1985; there is no record that I succeeded in my mission, and returned in time to save my people. Therefore, it is hopeless to try. I should have realised it before."

"But you have taken me out of the past," I protested. "Isn't that upsetting the order of events?"

Again she shook her head. "No," she said. "Somewhere it has been recorded that you made this time-trip, that you and I met. If you had lived your life without our having met, I could not have gone back and brought incidents into that life that had never occurred. You understand?"

"Dimly," I said. "I fancy I see what you're driving at. But tell me why you should have come back to your own era too late? I should have imagined that you would have been able to return to the exact date you left."

"Let me explain. This is how it presents itself to me. When I travel in time the process is, to all intents and purposes, instantaneous. I do not expend time, so to speak, in the way that I expend power. I do not live that time; I merely pass through it. But when I reach any desired era, and stop travelling, time begins again for me.

"I spent fifteen minutes stationary in your year, talking to you. That is fifteen minutes out of your life-period, and mine. You have that fifteen minutes less to live. My searchings through the centuries cost me the matter of a year, in accumulated time, outside of the influence of the time-machine. That year, also, has gone out of my life. It is part of the allowance of my existence that I have expended.

"Now can you see that I could not possibly have returned here to the exact date on which I left? The amount of time I spent in other centuries, when I was not actually time-travelling, amounted to a year. That year must be subtracted from the sum of my existence. Therefore, I must arrive back to find that a year has elapsed here in my absence."

"Then," I said, "if I were to remain here a year, and then could return, I would find it 1940, not 1939?"

"That is it, exactly," she agreed, then looked at me with wide-eyed horror. "But," she said, slowly, "the machine is broken."

"You may be able to repair it. There is no harm in trying."

She thought, with knitted brows, for a full minute.

"Why not?" she said at length. "There is nothing to stop your returning, even if I cannot go."

"You may be able to come with me," I suggested. "There is no reason why you should not. Even what you have told me does not debar you. You must live the full period allotted to you, either here or in some other era."

THERE may have been a flaw in my reasoning. Perhaps so, perhaps not; at any rate, she seemed convinced. No doubt she wished to be convinced. After all, I was a man and she a woman, not altogether repugnant to each other, and whatever else had changed, a million years had wrought but little alteration in the fundamentals of human nature.

At least, she set to work with an almost feverish haste. But for my suggestion, I really believe she would have done as the others had done; would have let in the cold of space and died by her own act, reasoning that it was better to pass out in a few moments of exquisite agony than to linger day by day, seeing the thread that bound her to life grow frailer and thinner, until at last it snapped. But I, I flatter myself, gave her something to live for, the human heart being what it is.

I could not help her. She would not let me, preferring to work feverishly alone, while I occupied my time in various ways. I could not go outside

the building in which we were housed, for to do so would have been to court the frozen death. I had my camera with me, and a supply of films, and would dearly have liked to have taken many photos; but I compromised. Some of the television screens were still functioning, their power not yet drained; and by their aid I secured some photos worth preserving, though whether they would be credited I cannot say. At least, as records, they were worth-while to me alone.

Daily, the red disk of the Sun grew more dim, and the cold increased. The glass surface of the building, now, was frosted over so that it was opaque, and we began to feel the chill bite of the cold in our bones. The power that warmed the building was running out, and I was heartened by Leela's announcement that a few days more would see the repairs completed. I wished that she would let me help her, but every time I broached the subject she refused my offer, saying that it was work that only one could do, that it was intricate, and that with my lack of knowledge I would be more of a hindrance than a help.

However, I found much to occupy me. The building itself was a storehouse of strange appliances. I had wondered quite a lot, since I arrived, why the power that warmed the building should have lasted so long after all other power had run out in the buildings—one might almost call them cities—that had once been inhabited. The answer was very simple, it seemed.

The building was small, compared with the others we had seen on the screens; the amount required to warm it was not great, and since it was stored solar energy, it could be kept unused for quite a while. Leela, as a matter of fact, had started the motors immediately upon our arrival, and had run them at only half-capacity ever since. Knowing that there was no way of replenishing the supply, once it was exhausted, she had been careful.

One discovery I made, while her work held her to the machine. In one of the compartments at the farthest end of the building—one that we seldom went to, since the cold there was more intense—I found a series of apparatus not unlike the switchboard of a telephone system; and exploring further, I found head-phones. One day, in an idle hour, I put on the head-set and snapped one switch after another, simply to see what would happen. Great was my surprise to hear a voice in my ear.

I NEARLY dropped the phones, in my excitement, then recovered my equanimity as I realised that I was listening to something in the nature of a mechanical reproduction, a phonographic record, or whatever corresponded to it in this age. My idle working of the switches had released one that set the machine in operation.

I listened to the end—a short record, it was—and then switched back. Sure enough, the voice, metallic and measured, began all over again. I had paper and pencil in my pocket, and for reasons of my own, I took a transcript in shorthand of what the voice was saying. That finished, I looked round the switch-board to see if there was anything that would show me where the voice was coming from.

There was much that I did not understand, but I was able to puzzle out enough to realise that the record I had heard was being transmitted from the building we had first seen in the television screen. Probably it had been so adjusted that anyone attempting to call the place would immediately set the machine in motion.

I went back to Leela in a thoughtful mood. The moment I reached her, I could see by her face that success had come at last. She had repaired the machine: we could start as soon as I liked.

The news decided me to say nothing about my own experience. Yet on one

point I felt I must satisfy myself, before I allowed her to take the decision.

"Leela," I said, "are you prepared to come back with me to my own age, to stay with me there always, and never know a life apart from me?"

She looked at me oddly, I thought. "Why," she said, "do you ask that?"

"Because," I answered steadily, "I would not care to think that you were doing this simply to save me from being marooned here in time. In the while we have been together, I have grown to think of you as someone I would not care to have pass out of my life again. You have brought something into it that it had never known before—love!"

"And you, too," she said softly, "have brought it to me. If I were not going back with you, I would not care what became of me. I have failed in what I tried to do; I have lost all my own world held for me, and had you not come to make up that loss for me, I . . ."

She did not finish, but said abruptly: "Let us go, before I begin to say foolish things."

We went. I think, in one way, she was reluctant to go, for she shed a tear before she put her hand to the key-bank and moved the lever that would bring us back to this year of grace.

We arrived on the very spot where we had taken off. I made a careful calculation before we ventured out, and found that we had spent two months and three days away; then, satisfied of that, we opened the door and stepped out into the full sunshine of a living world.

"What will we do with the machine?" I asked, as we turned and stared at it. "It will be a bit difficult to explain away, won't it?"

"This," she said, answering my first question and ignoring the other.

I saw that she held a length of cord in her hand, and that the other end of it disappeared into the machine. Even then, I did not realise what it was she intended doing. Abruptly, she jerked the cord. It was twitched out of her hand; the machine rocked crazily, seemed to dissolve, and before my astonished eyes, vanished utterly.

I took a step forward and caught her by the arm. "What have you done?" I cried.

"Sent it back to my own time," she said. "It is better thus. Without it, I will not be tempted . . ." To do what, she would not say.

THAT was three years ago. We have been very happy since. No cloud has marred the serenity of our lives; yet sometimes I fancy Leela's thoughts go back—or forward, if you will—to the days that are yet to come.

It has taken me all this time to summon up courage to tell her of that last experience of mine in what, for want of a better term, I call the telephone-room of the building that was her experimental laboratory. To my surprise, she took it better than I had hoped.

"They did not think you would return," I told her. "They believed that you had failed, and were lost in time. But they prepared, in case you did come back. There is a chance that they were not dead; that many of them are but in a state of suspended animation. There was a new discovery made while you were away, a drug somewhat similar to that we call avertin. It could suspend animation completely, over a short period, but whether its effects would be lasting over years was problematical.

"Some of the population were willing to try, at any rate, and were given the drug. From first to last, it was all a pure gamble, you see. A few of your scientists believed that the Solar System would pass out of the region of this strange gas—if it was that—in a century or so, but they admitted they might be wrong. The majority were almost certain the Earth was doomed.

They hoped that if it was not, that if this was but a passing phase, the warmth of the rejuvenated Sun would bring life back to those who were in a state of suspended animation.

"They gambled on everything; on the potency of the drug, its ability to protect against the inevitable cold, and on their hopes that the Sun would once again shine out as before. Nowhere was there any degree of certainty, for they were dealing with exceptional circumstances, and had nothing on which to base their calculations, other than the hopes they had in mind."

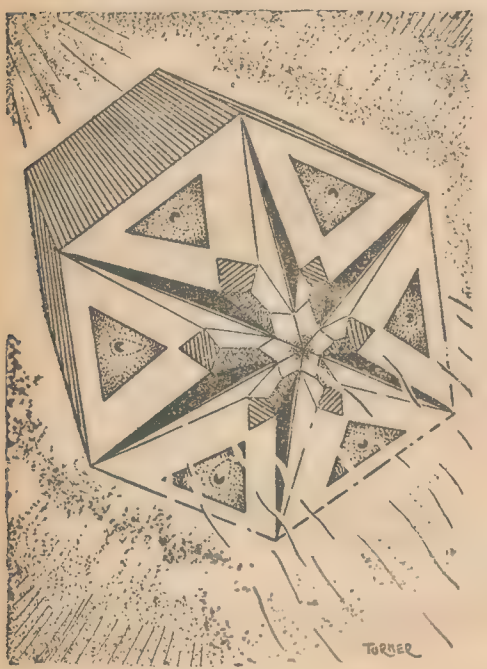
"No, I do not blame you," she repeated at the end. "You did what you thought was for the best. Had you told me then, when my mind was in turmoil, I might have taken a course that I would have regretted afterwards. No, I do not regret that I am here with you. . . ."

What else she said does not matter. Nevertheless, the fact remains that Leela has the knowledge and the means to build another time-machine, and if she will, to send us travelling again. We have discussed the matter between us, without reaching any definite conclusion.

Were we to go forward again, a century or so ahead of her day, we might find the world awakened once more. On the other hand, we might not. It would be more than heart-breaking to find, at last, a world locked in a slumber that had become eternal. While we do not know for certain, we can sustain our minds with the hope of possibilities. . . .

Yet, I do not know. Some day we may decide to build another machine, to take the risk of black disappointment, and solve at last the enigma that perplexes us both.

His Search For Radium Led Him To A Weird Domain Of Things Beyond All Human Understanding . . .



THE METAL MAN

By JACK WILLIAMSON

Author of *The Stone from the Green Star, The Moon Era, etc.*

THE Metal Man stands in a dark, dusty corner of the Tyburn College Museum. Just who is responsible for the figure being moved there, or why it was, I do not know. To the casual eye, it looks to be merely an ordinary life-size statue. The visitor who gives it a closer view marvels at the minute perfection of the detail of hair and skin; at the silent tragedy in the set, determined expression and pose; and at the remarkable greenish cast of the metal of which it is composed, but, most of all, at the peculiar mark upon the chest. It is a six-sided blot, of a deep crimson hue, with the surface oddly granular and strange, wavering lines radiating from it—lines of a lighter shade of red.

Of course, it is generally known that the Metal Man was once Professor Thomas Kelvin of the Geology Department. There are current many garbled and inaccurate accounts of the weird disaster that befell him, but I believe I am the only one to whom he entrusted his story; and it is to put these tales at rest that I have decided to publish the narrative that Kelvin sent me.

For some years he had been spending his summer vacations along the Pacific coast of Mexico, prospecting for radium. It was three months since he had returned from his last expedition. Evidently he had been successful beyond his wildest dreams. He did not come to Tyburn, but we heard stories of his selling millions of dollars' worth of salts of radium, and giving as much more to institutions employing radium treatment. And it was said that he was sick of a strange disorder that defied the world's best specialists, and that he was pouring out his millions in the

establishment of scholarships and endowments, as if he expected soon to die.

One cold, stormy day, when the sea was running high on the unprotected coast which the cottage overlooks, I saw a sail out to the north. It rapidly grew nearer, until I could tell that it was a small sailing schooner with auxiliary power. She was running with the wind, but a half-mile off-shore she came up into it, and the sails were lowered. Soon, a boat had put off in the direction of the shore. The sea was not so rough as to make the landing hazardous, but the proceeding was rather unusual; and as I had nothing better to do, I went out in the yard before my modest house, which stands perhaps two hundred yards above the beach, in order to have a better view.

When the boat touched, four men sprang out and rushed it up higher on the sand. As a fifth, tall man arose in the stern, the four picked up a great chest and started in my direction. The fifth person followed, leisurely. Silently, and without invitation, the men brought the chest up the beach and into my yard, and set it down in front of the door.

The fifth man, whom I now knew to be a hard-faced Yankee skipper, walked up to me and said gruffly: "I am Captain McAndrews."

"I'm glad to meet you, Captain," I said, wondering. "There must be some mistake. I was not expecting——"

"Not at all," he said abruptly. "The man in that chest was transferred to my ship from the liner *Plutonia*, three days ago. He has paid me for my services, and I believe his instructions have been carried out. Good day, sir."

He turned on his heel and started away.

"A man in the chest!" I exclaimed.

He walked on, unheeding, and the seamen followed. I stood and watched them, as they walked down to the boat and rowed back to the schooner. I gazed at its sails until they were lost against the dull blue of the clouds. Frankly, I feared to open the chest.

At last, I nerved myself to do it. It was unlocked. I threw back the lid. With a shock of uncontrollable horror that left me half sick for hours, I saw in it, stark naked, with the strange crimson mark standing lividly out from the pale green of the breast, the Metal Man, just as you may see him in the Museum.

Of course, I knew at once that it was Kelvin. For a long time I bent, trembling and staring at him. Then I saw an old canteen, purple-stained, lying by the head of the figure, and under it, a sheaf of manuscript. I got the latter out, walked with shaken steps to my easy chair in the house, and read the story that follows:

"DEAR Russell.—You are my best, my only intimate, friend. I have arranged to have my body, and this story, brought to you. I just drank the last of the wonderful

In Jack Williamson we are privileged to introduce into our pages yet another American writer from among the most brilliant exponents of science fiction to-day. Apart from the utterly unfamiliar things with which it deals, his story is of interest to his English followers in that it was the first he ever had published, when it appeared in America's *Amazing Stories* several years ago; and it is at the request of several of our readers that we are printing it here, with acknowledgments. We should like to know, too, how all our readers react to such an unusual tale, and whether they would appreciate more on these lines.

purple liquid that has kept me alive since I came back, and I have scant time to finish this necessarily brief account of my adventure. But my affairs are in order, and I die in peace.

"I had myself transferred to the schooner to-day, in order to reach you as soon as could be, and to avoid possible complications. I trust Captain McAndrews. When I left France, I hoped to see you before the end; but Fate ruled otherwise.

"You know that the goal of my expedition was the headwaters of El Rio de la Sangre, 'The River of Blood.' It is a small stream whose strangely red waters flow into the Pacific, and on my trip last year, I had discovered that its waters were powerfully radioactive. Water has the power of absorbing radium emanations and emitting them, in turn, and I hoped to find radium-bearing minerals in the bed of the upper river.

"Twenty-five miles above the mouth, the river emerges from the Cordilleras. There are a few miles of rapids, and back of them the river plunges down a magnificent waterfall. No exploring party had ever been back of the falls. I had hired an Indian guide and made a mule-back journey to their foot. At once, I saw the futility of attempting to climb the precipitous escarpment; but the water there was even more powerfully radioactive than at the mouth. There was nothing to do but return.

"This summer, I bought a small monoplane. Though it was comparatively slow in speed and able to spend only six hours aloft, its light weight, and the small area needed for landing, made it the only machine suitable for use in so rough a country. The steamer left me again on the dock at the little town of Vaca Morena, with my stack of crates and gasoline tins. After a visit to the Alcade I secured the use of an abandoned shed for a hangar. I set about assembling the plane, and in a fortnight had completed the task. It was a beautiful little machine, with a wing-spread of only twenty-five feet.

"Then, one morning, I started the engine and made a trial flight. It flew smoothly, and in the afternoon, I refilled the tanks and set off for the Rio de la Sangre. The stream looked like a red snake crawling out to the sea—there was something serpentine in its aspect. Flying high, I followed it, above the falls and into a region of towering mountain peaks.

"The river disappeared beneath a mountain. For a moment, I thought of landing, and then it occurred to me that it flowed subterraneously for only a few miles, and would reappear farther inland. So I soared over the cliffs and came over the crater.

"A great pool of green fire, it was, fully ten miles across to the black ramparts at the farther side. The surface of the green was so smooth that, at first, I thought it was a lake, and then I knew that it must be a pool of heavy gas. In the glory of the evening Sun, the snow-capped summits about were brilliant argent crowns, dyed with crimson, tinged with purple and gold, tinted with strange and incredibly beautiful hues. Amid this wild scenery, Nature had placed her greatest treasure. I knew that in the crater I would find the radium I sought.

"I CIRCLED about the place, rapt in wonder. As the Sun sank lower, a light silver mist gathered on the peaks, half veiling their wonders, and flowed towards the crater. It seemed drawn with a strange attraction. And then, the centre of the green lake rose up in a shining peak; flowed up into a great hill of emerald fire. Something was rising in the green—carrying it up!

"Then the vapour flowed back, revealing a strange object, still veiled faintly by the green and silver clouds. It was a gigantic sphere of deep red, marked with four huge, oval spots of dull black. Its surface was smooth, metallic, and thickly studded with great spikes of yellow fire. It was a machine,

inconceivably great in size. It spun slowly as it rose, on a vertical axis, moving with a deliberate, purposeful motion.

"It came up to my own level, paused, and seemed to spin faster; and the silver mist was drawn to the yellow points, condensing, curdling, until the whole globe was a ball of lambent argent. For a moment it hung, unbelievably glorious in the light of the setting Sun, and then it sank, ever faster, until it dropped like a plummet into the sea of green.

"And with its fall, a sinister darkness descended upon the desolate wilderness of the peaks, and I was seized by a fear that had been deadened by amazement, and realised that I had scant time to reach Vaca Morena before complete darkness fell. Immediately, I put the plane about in the direction of the town.

"According to my recollections, I had, at the time, no very definite idea of what it was I had seen, or whether the weird exhibition had been caused by human or natural agencies. I remember thinking that, in such enormous quantities as undoubtedly the crater contained, radium might possess qualities unnoticed in small amounts, or again, that there might be present some radioactive minerals as yet unknown. It occurred to me, also, that perhaps some other scientists had already discovered the deposits, and that what I had witnessed had been the trial of an air-ship in which radium was utilised as a propellent.

"I was considerably shaken, but not much alarmed, as I flew back towards the town. Then I noticed that a pale-bluish luminosity was gathering about the cowl of the cockpit, and in a moment I saw that the whole machine, and even my own person, was covered with it. It was somewhat like St. Elmo's Fire, except that it covered all surfaces indiscriminately, instead of being restricted to sharp points. All at once, I connected the phenomenon with the thing I had seen.

"I felt no physical discomfort, and the motor continued to run; but as the blue radiance continued to increase, I observed that my body felt heavier, and that the machine was being drawn downwards! My mind was flooded with wonder and terror, and I fought to retain sufficient self-possession to fly the ship. My arms were soon so heavy that I could hold them upon the controls only with difficulty, and I felt a slight dizziness due, no doubt, to the blood being drawn from my head.

"When I recovered, I was already almost upon the green. Somehow, my gravitation had been increased, and I was being drawn into the pit! It was possible to keep the plane under control only by diving and keeping at a high speed.

"I PLUNGED into the green pool. The gas was not suffocating, as I had anticipated; in fact, I noticed no change in the atmosphere, save that my vision was limited to a few yards around. The wings of the plane were still distinctly discernible. Suddenly, a smooth, sandy plain was murkily revealed below, and I was able to level the ship off enough to make a safe landing. As I came to a stop, I saw that the sand was slightly luminous, as the green mist seemed to be, and red. For a time, I was confined to the ship by my own weight, but I noticed that the blue luminosity was slowly dissipating, and with it, its effect.

"As soon as I was able, I clambered over the side of the cockpit, carrying my canteen and automatic, which were themselves immensely heavy. I was unable to stand erect, but crawled over the coarse, shining red sand, stopping at frequent intervals to lie flat and rest. I was in deathly fear of the force that had brought me down, and felt sure it had been directed by intelligence. The floor was so smooth and level that I supposed it to be the bottom of an ancient lake.

"Sometimes, I looked fearfully back,

and when I was a hundred yards away, I saw a score of lights floating through the green towards the airplane. In the luminous murk, each bright point was surrounded by a disk of paler blue. I made no movement, but lay and watched them. They floated to the plane, and wheeled about it with a slow, heavy motion. Closer and lower they came, until they reached the ground about it. The mist was so thick as to obscure the details of the scene.

"When I went to resume my flight, I found my excess of gravity almost entirely gone, though I went on hands and knees for another hundred yards to escape possible observation. When I got to my feet, the plane was lost to view. I walked on for perhaps a quarter of a mile, and suddenly realised that my sense of direction was altogether gone. I was completely lost in a strange world, inhabited by beings whose nature and disposition I could not even guess! And then I realised that it was the height of folly to walk about, when any step might precipitate me into a danger of which I could know nothing.

"I had a peculiarly unpleasant feeling of helpless fear. The luminous red sand and the shining green of the air were unbroken by a single solid object. There was no life, no sound, no motion; the air hung heavy and stagnant; the flat sand was like the surface of a dead and desolate sea. I felt the panic of utter isolation from humanity. The mist seemed to come closer; the strange evil in it to grow more alert.

"Suddenly a darting light passed, meteor-like, through the green above, and in my alarm I ran a few blundering steps. My foot struck a light object that rang like metal. The sharpness of the concussion filled me with fear, but in an instant the light was gone, and I bent down to see what I had kicked. It was a metal bird—an eagle formed of metal—with the wings outspread, the talons gripping, the fierce beak set open. The colour was white, tinged with green.

"At first, I thought it was a cast model, and then I saw that each feather was complete and flexible. Somehow, a real eagle had been turned to metal! It seemed incredible, yet here was the concrete proof. I wondered if the radium deposits, which I had already used to explain so much, might account for this, too. I knew that science held transmutation of elements to be possible—had even accomplished it, in a limited way, and that radium itself was the product of the disintegration of ionium, and ionium that of uranium.

"I was seized with fright for my own safety. Might I be changed to metal? I looked to see if there were any other metal things about, and I found them in abundance. Half-buried in the glowing sands were metal birds of every kind; birds that had flown over the surrounding cliffs. And, at the climax of my search, I found a pterosant—a flying reptile that had invaded the pit in ages past—changed to ageless metal. Its wing-spread was fully fifteen feet; it would be a treasure in any museum.

"I MADE a fearful examination of myself, and to my unutterable horror, I perceived that the tips of my finger-nails, and the fine hairs upon my hands, *were already changed to light green metal!* The shock unnerved me completely. You cannot conceive my horror. I screamed aloud in agony of soul, careless of the terrible foes that the sound might attract, and ran off wildly. I was blind, unreasoning. I felt no fatigue as I ran—only stark terror.

"Bright, swift-moving lights passed above in the green, but I heeded them not. Suddenly, I came upon the great sphere that I had seen above. It rested motionless in a cradle of black metal. The yellow fire was gone from the spikes, but the red surface shone with a metallic lustre. Lights floated about it, and made little bright spots in the green, like lanterns swinging in a fog.

I turned and ran again, desperately. I took no note of direction, nor of the passage of time.

"Then I came upon a bank of violet vegetation, waist-deep and grass-like, with thick, narrow leaves, and dotted with clusters of small pink blooms and little purple berries. A score of yards beyond, I saw a sluggish, red stream—El Rio de la Sangre. Here was cover at last. I threw myself down in the the violet growth, and lay sobbing with fatigue and terror. For a long time, I was unable to stir or think. When I looked again at my finger-nails, the tips of metal had doubled in width.

"I tried to control my agitation, and to think. Possibly the lights, whatever they were, would sleep by day. If I could find the plane, or scale the walls, I might escape the fearful action of the radioactive minerals before it was too late. I realised that I was hungry, and I plucked off a few of the purple berries and tasted them. They had a salty, metallic taste, and I thought they would be valueless as food. But in pulling them, I had inadvertently squeezed the juice from one upon my fingers, and when I wiped it off I saw, to my amazement and my inexpressible joy, that the rim of metal was gone from the finger-nails it had touched.

"I had discovered a means of safety! I suppose that the plants were able to exist there only because they produced compounds counteracting the metal-forming emanations. Probably their evolution began when the action was far weaker than now, and only those able to withstand the more intense radiations had survived. I lost no time in eating a cluster of the berries, and then I poured the water from my canteen and filled it with their juice. I have since analysed the fluid, and it corresponds in some ways with the standard formula for the neutralisation of radium burns, and doubtless saved me from the terrible burns caused by the action of ordinary radium.

"I lay there until dawn, dozing a little at times, only to start into wakefulness without cause. It seemed that some daylight filtered through the green, for at dawn it grew paler, and even the red sand appeared less luminous. After eating a few more of the berries, I ascertained the direction in which the stagnant red water was moving, and set off down-stream, towards the west. In order to get an idea of where I was going, I counted my paces.

"I had walked about two and a half miles, along by the violet plants, when I came to an abrupt cliff. It towered up until it was lost in the green gloom, and it seemed to be mostly of black pitchblende. The barrier seemed absolutely unscalable. The red river plunged out of sight by the cliff, in a racing whirlpool.

"I walked off north, around the rim. I had no very definite plan, except to try to find a way out over the cliffs. If I failed in that, it would be time to hunt for the plane, though I had a mortal fear of going near it, and of encountering the strange lights I had seen floating about it. As I went, I saw none of them, and supposed they slept when it was day.

"I WENT on until it must have been noon, though my watch had stopped. Occasionally, I passed metal trees that had fallen from above, and once, the metallic body of a bear that had slipped off a path above, some time in past ages. And there were metal birds without number, that must have been accumulating through geological ages.

"All along, up to this, the cliff had risen perpendicularly to the limit of my vision, but now I saw a wide ledge, with a sloping wall beyond it, dimly visible above. But the sheer wall rose a full hundred feet to the shelf, and I cursed at my inability to surmount it. For a time, I stood there devising impractical means for climbing it, driven almost to

tears by my impotence. I was ravenously hungry, and thirsty as well.

"At last, I went on again; and in an hour I came upon a slender cylinder of black metal, that towered a hundred feet into the greenish mist, and carried at the top a great mushroom-shaped, orange flame. It was a strange thing. The fire was as big as a balloon, bright and steady, and looked much like a great jet of combustible gas, burning as it streamed from the cylinder. I stood petrified in amazement, wondering vaguely at the thing; and then I saw more of them at the back of it, dimly—scores of them, a whole forest of flames.

"I crouched back against the cliff, while I considered. Here, I supposed, was the city of the lights. They were sleeping, now, but still I had not the courage to enter. According to my calculations, I had gone about fifteen miles. Then I must be, I thought, almost diametrically opposite the place where the crimson river flowed under the wall, with half of the rim unexplored. If I wished to continue my journey, I must go around the city—if I may call it that.

"So, I left the wall, and soon it was lost to my view. I tried to keep in view the orange flames, but abruptly, they were gone in the mist. I walked more to the left, but came upon nothing but the wastes of red sand, with the green murk above. On and on, I wandered. Then the sand and the air grew slowly brighter, and I knew that night had fallen.

"The lights were soon passing to and fro. I had seen lights the night before, but they had travelled high and fast. These, on the other hand, sailed low, and I felt that they were searching—for me!

"I lay down in a little hollow in the sand. Vague, mist-veiled points of light came near, and passed; and then one stopped, directly overhead. It descended, and the circle of radiance grew about it. I knew that it was useless to run, and could not have done so, for my terror. Down and down it came. . . .

"And then I saw its form. The Thing was a glittering, blazing crystal. A great six-sided, upright prism of red, a dozen feet in length, with a six-pointed structure like a snowflake about the centre, deep blue, with pointed blue flanges running from the points of the star to the angles of the prism! Soft scarlet fire flowed from the points, and on each face of the prism, above and below the star, was a purple cone that must have been an eye. Strange, pulsating lights flickered in the crystal. It was alive with light . . . and it fell straight towards me!

"It was a terribly, utterly alien form of life. It was not human, not animal—not life as we know it at all. And yet, it had intelligence; but it was strange and foreign, and devoid of feeling. Even then, as I lay beneath it, the thought came to me that the Thing, and its fellows, must have crystallised when the waters of the ancient sea dried out of the crater. Crystallising salts take intricate forms. . . .

"I drew my automatic and fired three times, but the bullets ricochetted harmlessly off the polished facets. It dropped until the gleaming lower point of the prism was not a yard above me. Then the scarlet fire reached out caressingly, flowed over my body. My weight grew less; I was lifted, held against the point. You may see its mark upon my chest.

"The Thing floated into the air, carrying me. Soon, others were drifting about. I was overcome with nausea. The scene grew black, and I knew no more.

"I AWOKE floating free in a brilliant, orange light. I touched no solid object. I writhed, kicked about—at nothingness. I could not move, or turn over, because I could get a hold on nothing.

"My memory of the last two days seemed a nightmare. My clothing was

still upon me; my canteen still hung—or rather, floated—by my shoulder, and my automatic was in my pocket. I had the sensation that a great space of time had passed, and there was a curious stiffness in my side. I examined it, and found a red scar. I believe those crystal Things had cut into me; and I found, with a horror you cannot understand, the mark upon my chest.

"Presently, it dawned upon me that I was floating, devoid of gravity and free as an object in space, in the orange flame at the top of one of the black cylinders. The crystals knew the secret of gravity: it was vital to them. And peering about, I discerned, with infinite repulsion, a great flashing body a few yards away. But its inner lights were dead, so I knew that it was day, and that the strange beings were sleeping.

"If I was ever to escape, this was the opportunity. I kicked, clawed desperately at the air, all in vain. I did not move an inch; if they had chained me, I could not have been more secure. I drew my automatic, resolved on a desperate measure. They would not find me again, alive! And as I had it in my hand, an idea came into my mind. I pointed the gun to the side, fired six rapid shots, and the recoil of each explosion sent me drifting faster, rocketwise, towards the edge.

"I shot out into the green. Had my gravity been suddenly restored, I might have been killed by the fall, but I descended slowly, and felt a curious lightness for several minutes. And to my surprise, when I struck the ground, the airplane was right before me!

"They had drawn it up by the base of the tower. It seemed to be intact. I started the engine with nervous haste, and sprang into the cockpit. As I started, another black tower loomed up abruptly before me, but I veered around it, and took off in safety. In a few moments, I was above the green. I half expected the gravitational wave to be turned on me again, but higher and higher I rose, unhindered, until the accursed black walls were about me no longer.

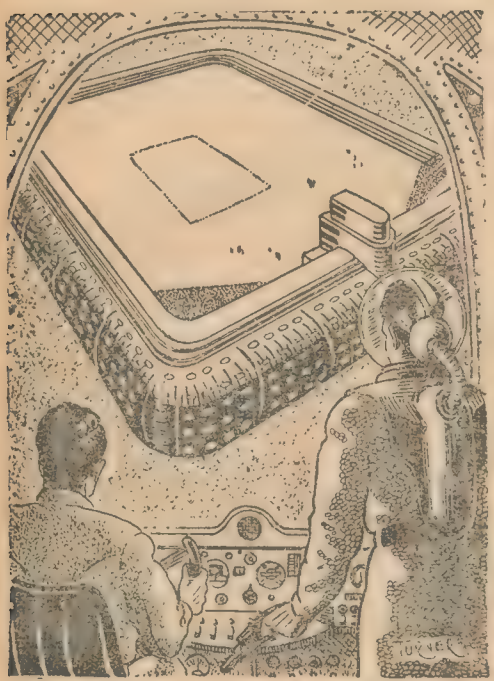
"The Sun blazed high in the heavens. Soon, I had landed again at Vaca Morena. I had had enough of radium hunting. On the beach, where I landed, I sold the plane to a rancher at his own price, and told him to reserve a place for me on the next steamer, which was due in three days. Then I went to the town's single inn, ate, and went to bed.

"At noon the next day, when I got up, I found that my shoes and the pockets of my clothes contained a good bit of the red sand from the crater, that had been collected as I crawled about in flight from the crystal lights. I saved some of it for curiosity alone, but when I analysed it, I found it a radium compound so rich that the little handful was worth millions of dollars.

"But the fortune was of little value, for despite frequent doses of the fluid from my canteen, and the best medical aid, I have suffered continually; and now that my canteen is empty, I am doomed. — Your friend, Thomas Kelvin."

Thus, the manuscript ends. If the reader doubts the truth of it, he may see the Metal Man in the Tyburn Museum.

Dream Of A Genius Fashioned In Steel, A City Floated In The Sky, Defying The Laws Of Nature And Of Man!



THE ISLAND IN THE AIR

By D. J. FOSTER

Author of *The Alien Error*

CHAPTER I

PIRATES OF THE SKIES

"BUT where is their base? That's what I want to know!"

The Managing Director of Pan-Oceanic Airways ruffled his hair in a manner that indicated the extent to which his customary self-possession had been shaken.

"Ever since 1948—and that's a full three years ago, now—these pirates have been eating into the very heart of our industrial and social civilisation, robbing planes regularly, almost every month, with the same astounding success. Man alive, they must have a substantial base somewhere, to be able to carry on this well organised crime-work!"

He brought a sledge-hammer fist down on the desk. "This has got to be stopped, and soon, or it will send commerce into bankruptcy. I'm not asking for miracles; just that these parasites be put out of circulation right away!"

Chief Inspector Trent got to his feet and, putting on his hat, regarded the Managing Director of the Airways thoughtfully.

"This is a matter for the Air Force, Mr. Burners, not for me," he said. "I recommend you to get in touch with the Air Ministry again. After all, they've been on the job for you two years, now—why call in the civilian police? I know this much, that it is useless for you to try to find this base you're looking for—that everybody is looking for, in fact—either in England

or the United States; it just doesn't exist."

"That's what the Air Force people say," cried Burners in exasperation, "and every inquiry from the Continent produces the same answer. I tell you, Inspector, that is sheer nonsense! Do you know how many of the pirates' planes have been shot down, up to now, by the air forces of different nations? Fifteen—and their strength is still unimpaired.

"They've got the finest fleet of high-power stratosphere rocket-planes that is owned by any one company in the world to-day, and they're not getting these planes from private firms; that's common property. Somewhere, there is a first-class works producing these ships, and with it goes the pirates' aerodrome—and you can't hide a set-up like that without detection."

"I'll tell you what I'll do," decided Trent, seating himself again. "I'll give you a man to work on this job who'll find this mythical base, if anyone can. I'm beginning to think there's more in this business than most people imagine. If the combined air forces of Britain and the Continent, not to mention the States, are unable to trace a pirate air base, it's pretty obvious that brute force is the wrong technique. What is required is a man who can work on his own, and in that direction I can, and will, assist you. I shall need co-operation from you every inch of the way, and there's a chance, a slim one, that we can bring in this ring of pirates."

"I'll give you anything you ask for," declared Burners, eagerly. "There's a £5,000 reward offered by this company for their capture, don't forget!"

Since the early pioneers of flight tried to emulate the birds, man has struggled to master that mysterious force that chains us to the earth. So far he has only been successful in conquering it to the extent that we are able to travel the skies for limited periods, at heights and for distances which are, nevertheless, ever increasing. But surprising experiments have been taking place, quite recently, with a view to discovering how we may actually *control* gravity, and thus be able to resist it how and when we will. This story gives an intelligent and thoroughly reasonable forecast of what may come of such experiments before many years have passed, and should particularly satisfy those readers who wish to know more of the why and wherefore of our authors' prognostications.

THE afternoon freight-plane to New York stood with her six motors gently ticking over, waiting for the triangular green signal from the control-tower that would send her climbing into the limitless blue on her non-stop, three-hour run to the American continent. The cavernous holds had already been stocked with the maximum freight-load of forty-five tons, and the hatches were bolted and hermetically sealed. The entire machine had been sealed thus, the metal surface checked and double-checked for leaks. Now, there remained only the signal to start.

John Lane relaxed in the upholstered pilot's seat, his eyes fixed on the control-tower. The preliminary orange light winked, and he "gunned" the motors until the staccato roar merged into an even, droning hum, and the giant wheels strained at the chocks. Then the green light flashed; the chocks were whisked away, and the great plane sped across the tarmac and lifted effortlessly.

As the undercarriage retracted, the real beauty of the machine became perceptible. From the tapering nose, past the outspread, three-hundred-feet wings, to the compact tail-assembly that was, if anything, enhanced by the oval flush-rims of the rocket-nozzles, the *Atlantic Star* was an incomparable sight, a tribute to the artist-engineers of 1950.

At an angle of thirty degrees, the stratosphere-plane soared upwards until the altimeter registered forty thousand feet; and at this height, John Lane flattened it out. He looked at the bank of fleecy clouds below him, that shut him off completely from the rest of the world. How easy it was for aerial buccaneers to rob a plane of its valuable cargo with that great, natural blanket to screen their activities! Yes, rob it in mid-air, as they had been doing for months, as easily as they could rob a train; stratosphere piracy at over a thousand miles an hour!

Burners was a fool to send up a freight-plane with only one pilot. True, the pirates had struck only at passenger ships thus far, but that represented no guarantee of safety for the freighters, despite their more unmanageable cargo. Lane had again and again asked for an additional man to accompany him, without result; and it was this point that had puzzled the Airways pilot, for Burners had lost far more financially by piracy than he was likely to by installing two, or even three men to a plane.

It was his fifth flight, this, since leaving the ground school, and he rather wished he could meet with one of the notorious black planes that persistently defied the air patrols of the entire world. From the ground staff and fellow-pilots alike, he had heard much concerning the company's proposed drive to catch them, with the aid of a Special Branch man; but now, six months after the rumour had first spread abroad, the opinions of the staff seemed well founded. Matters stood as they had done before.

Lane shrugged his shoulders, and dismissed the subject from his mind. He had now to change over from the internal combustion screw-engines to the infinitely more powerful rocket-motors, and the manœuvre demanded every ounce of concentration. He cut the ignition, and flicked over the switch that controlled the retracting device. The engines died away, the propellers snapped into a horizontal position, and as one, the six units slid back into their wing housings. Instantaneously, Lane opened up the rockets.

Nine tongues of orange flame stabbed out from the rear to merge in one vivid column of shimmering iridescence, and a crash of super-thunder rolled out through the thinning air, to echo back in peals from the cloud-banks far below. As though flung from the catapult of an imaginary giant, the *Atlantic Star* swept upwards until the banked clouds beneath became but a grey, misty blur, and above arched a blue-black sky studded with a million stars.

Lane switched on the radio transmitter. "*Atlantic Star* calling London. Running to schedule. All well. Off."

Relaxing in his seat, he studied the constellations. A meteor streaked across the sky, a swift dart of light with a short tail. Another followed, and a third. He recognised them as the "Pegasids," and knew that they were the only ones visible for a month yet. Then he stiffened, for across the stars there trailed another line of light; but this one was large, shining with a brilliant orange radiance, and it moved slowly in an ever-sharpening curve.

In a flash, he had dipped the nose of the freight-plane, and was screaming down in a headlong flight that threatened to rip the wings from the fuselage; but he knew there was no escape. The radio alarm bell sounded, and after the three minutes' pause, it automatically switched itself on.

"Hullo! *Atlantic Star!* Level out and remain on a steady course, after

which you are not to touch any controls. Cut your radio immediately. If you disobey, you will be shot down."

LANE compressed his lips, and followed the directions. He severed the radio leads, and sat waiting for the inevitable. He'd had his wish granted to the letter. The spark of light expanded with startling suddenness into a plane, a giant among stratosphere ships. It must have been fully four hundred feet across the wings, the black-painted body studded with machine-gun cupolas that covered the sky from every conceivable angle.

With superlative skill, the pirate ship was manœuvred until it rode directly over the *Atlantic Star;* and then, with the two ships so close that Lane was hard put to it to keep his machine from twisting out of control in the fierce currents of air, he witnessed an amazing spectacle.

From the underside of the black plane there projected a narrow tube of metal, in telescoped sections; and as these sections extended to form a tunnel, there climbed down it a man clad in a cumbersome air-tight suit and helmet. He reached down an oxy-acetylene blow-torch and, although almost torn from his position by the slipstream, despite the grappling-hooks that fastened him to it, he cut away a section of the *Atlantic Star's* body.

Lane heard it fall with a crash in the after-part of the plane. Then, as the plane above dipped, the tunnel slid for a fraction of a second into the cut-out portion, and the pirate dropped in. It was so neatly done, and in such a short time, that when Lane saw the great ship drop to one side and ride level, he did not appreciate fully what had happened until the double bulkhead doors behind him opened successively, and the figure that entered covered him with a revolver.

The man opened the face-plate of his helmet. "Start climbing!" he ordered. "And keep on climbing until you reach one hundred miles altitude."

He reached down, and plugged in Lane's radio. "All O.K. here," he reported to the black ship. "I'm signing off until we reach Base."

No word was spoken for the next half-hour. Lane's thoughts were confused. Why the altitude? It was wasting power, ruinously. One hundred miles—it was madness! The *Atlantic Star's* ceiling was in the region of ninety-five, certainly not much more; and if those tubes got overheated . . .

"It'll be risking a blow-out to take this crate up to one hundred," Lane pointed out.

The pirate waved his gun gently. "You take her up to one hundred, Lane, and never mind worrying about the rockets. We'll do all the worrying around here."

"Just where is this base of yours, then?"

"You'll find out soon enough," was the unsatisfactory reply. Something in his tone made Lane glance at the man. He was smiling, curiously.

"Funny how earth-bound some people get," came the surprising remark, and Lane could get nothing further out of him.

They kept climbing, ever climbing, until the fierce roar of the rockets had become a ghostly, far-away scream, and the tenuous air had ceased to rush, but instead, hissed past the fuselage in an eerie manner. With every passing moment the heat of the rocket-tubes increased, building up so swiftly that Lane expected them to volatilise, as the alloy from which they were made always did when the heat content exceeded the danger limit.

Perhaps it was because his attention was riveted on the dread prospect of the tubes', and his own, utter dissolution that when the thing ahead resolved into view he did not, for a moment, realise what it was. Then, the next moment, all thought of such relatively mundane things as hot reaction-motors and their

dangers passed from his mind in a flash. He sat gripping the controls as though turned to stone, gazing in sheer astonishment at the sight that greeted his eyes, a sight that was at the same time infinitely awful and infinitely majestic.

For ahead of the *Atlantic Star,* floating like a sombre cloud at a height of one hundred miles above the surface of the Earth, was an immense metal island.

CHAPTER II

THE GENIUS

QUITE half a mile across its roughly square shape, and many hundreds of feet in thickness, it glistened darkly against the stars, the convex-plated sides alive with a million glowing port-holes. Around the flat deck, a low-built superstructure rose in tiers, each level girded by an inward-tilting balcony, the buildings themselves being constructed almost entirely of a material strongly resembling glass. From a squat tower to one side of the island, a subdued yet effective flood-light illuminated the landing "field" with startling clarity. Manifestly, the weight of the immense structure must have been in the order of thousands of tons.

"My God!" breathed Lane; and it was only when the pirate had touched him on the shoulder for the third time that he recollected, and looked up.

"I'll take over now. Stand back and don't try to start anything, or this ship will hit the base, and not land on it."

Lane nodded, and gave up his seat after locking the controls. He watched the island grow, and as it approached, noticed that it was moving. The *Atlantic Star's* speed was well over a thousand miles per hour, and the rim of the metal landing field was coming to meet them at, he judged, a mere hundred and fifty. He had little time to study more, for they had swept over the rim, and the pirate, with a show of magnificent technique was centring the machine towards a faintly-marked square in the speeding surface.

The undercarriage snapped down, and as the wheels touched, the plane braked to a stop dead in the centre of the square. At once, there was a heavy jar. The pirate snapped off the rocket ignition, and sprang from his seat to face Lane with the gun.

"Don't move, for your own sake as well as mine!" he rapped. "The last man we brought here slammed on the rockets again, because our man wasn't quick enough, and the fool didn't know the plane was locked to the floor. His rocket-motor went through the front of the ship, and he went with it."

They were sinking gradually. The square in the surface was a lift, and as the surface slipped upwards Lane got his first sight of the island's interior, which was an immense hangar, crowded with black-painted pirate war-planes. Several men stood below, clad in pressure-suits, and as the lift grounded they slipped a cable over the plane's undercarriage and a winch hauled it off the platform, which immediately rose to bring down the escorting war-plane.

The pirate motioned towards a pressure-suit behind Lane. "Climb into that, and then leave the plane," he ordered.

Lane complied. They crossed the hangar floor, and at the wall, paused before an air-lock which was already opening. Once through this, and in the normal air-pressure of an inner corridor, the pirate opened his face-plate.

"You can remove your suit now, and when you've done that, follow me."

Lane was glad to get out of the cumbersome suit. Almost the first thing he noticed was the subtle chemical tang in the air he breathed. It was not unpleasant; in fact, after the first few deep breaths of it, he found it

rather exhilarating, due, he guessed, to a rather higher content of oxygen than was usual in normal air.

"Straight up the corridor, Lane."

The Airways pilot marched as directed, his eyes perceiving new wonders every foot of the way. He noticed the air-conditioning grills set in the walls; and every hundred yards was a panel containing dials which showed the atmospheric pressure and humidity for that section. A feature that struck him at once was the presence of sliding panels beside each set of dials, with printed instructions fixed to the wall for the operation of these in case of fire. The action of these "bulkheads," in sliding across the corridor, would be to confine a conflagration to one section.

Again, there were television-phones set in the walls at regular intervals; pressure-suit lockers in the event of a serious puncture of the island's walls, and, most ominous of all, machine-gun "nests" actually built into the structural framework each side of the corridor, covering every inch over which an attacking party must traverse. It was a picture of thoroughness exemplified.

AFTER covering what must have been over three hundred yards of corridor, Lane was stopped at a heavy door that bore a white disk on its metal surface. Here, the pirate guard pressed a push in the wall, and as a mauve light blinked above the door, he turned to Lane.

"Inside, please," he ordered, as the door opened; and Lane, wondering what all this ceremony portended, entered.

He saw a large room, one side of which was nothing but a great port that looked out to a brilliant night sky; a port of inward-curving glass fully six feet thick. The other walls of the room combined to form a horse-shoe bookcase, an imposing array of volumes that Lane had no time to notice particularly, for his attention became riveted on the man sitting behind the desk in the centre of the floor.

He was tall, without being spare, a man whose body, even though he was sitting, displayed a lithe suppleness that betokened an active, well-ordered life. His features, possessing in them a touch of the aquiline, were thinly moulded without being cruel, while the fine brow and jet-black hair gave him an outstanding appearance. But his eyes were, perhaps, the most distinctive feature about him. Deep-set and large, they shone with a light that could never be mistaken for fanaticism. Reflecting in their depths the light of sheer power, they were the eyes of an intellectual genius.

As Lane walked towards him, he smiled, and there was no trace of the captor in his manner, but rather that of a kindly host.

"This is a real pleasure," he murmured, motioning the Airways pilot to a chair, and pushing forward a box of cigarettes as he spoke. "I have had, from time to time, some very interesting personages here to see me, but I hardly thought I should have the honour of receiving Inspector John Lane, of Scotland Yard's Special Foreign Branch!"

Unperturbed, Lane accepted the seat, and lit up a cigarette from the proffered box. That these people had an amazing network of "information points," through which they gathered their knowledge of world affairs, was a fact that had been known to him for some months. There were already some four employees of the Airways, one of them a crack pilot of a rocket mail-plane, who were watched every moment of the day, though they remained blissfully unaware of this fact.

He looked round the room carefully, taking in the well-arranged fittings with a critical eye. Particularly did he study the vast control-board that was now visible to him, located between the door and the window. On it were hundreds

of switches and dials, arranged so that each little group of controls could be reached without moving from one spot; the complicated nerve-centre from which the entire island was maintained in close co-ordination.

"As criminals, I find you a little more enlightened than I expected," he remarked. "It seems a pity that you're all going to hang."

A shadow crossed the face of the man at the desk. "I think not," he said softly.

"You will hang," continued Lane, as though the other had not spoken, "very shortly now; I think, in about three weeks. By the way, I suppose you know that if I don't turn up at New York as per schedule, the air forces of both countries will patrol the air at their maximum altitudes?"

The other smiled once more. "I happen to know, Mr. Lane, that you left no such order. But let's not talk of such sordid matters as hangings and fiery rescues—and believe me, it would be fiery . . . for you. Here you are, and here, I regret to say, you stay. You're rather too dangerous for our liking when you're at large. But look here, even though we are enemies, I see no reason why we should remain at loggerheads. Shall we call a truce for a few hours?"

Lane nodded. "If you like."

"Splendid! Then let me introduce myself. My name is Gordon Leverett, Doctor of Physics—Cambridge."

"And one of the most brilliant minds in the world," murmured Lane. "I know of you."

LEVERETT bowed slightly. He went on: "I may say, with all due modesty, that I am responsible for this stratosphere island—does it interest you?"

"It amazes me!" confessed Lane. "How on Earth is it supported? By atomic power?"

Leverett shook his head. "By a power far greater even than that long-sought dream of mankind. It is a colossal power, Lane; one that, at times, frightens even me. Atomic power is big, in one way; certainly amazing in regard to the smallness of the particle that stores it. But this—when I tell you, Lane, that I have tapped what is perhaps the fundamental driving-force of the entire Universe, you may conceive something of the vastness of it!"

Lane eyed the man steadily. He knew he was speaking the truth; a man of Leverett's calibre was capable of no other utterance where science was concerned. He had stated that he held in his hand an unimaginable force, and it was necessarily a fact. Which made Doctor Gordon Leverett the most dangerous man alive.

The scientist rose from his seat. "I am going to show you this thing," he said. "Come with me, and we will make a tour of the island."

As they left the room and proceeded down the corridor, Leverett explained the principle underlying the island's construction.

"It is shaped, internally, like a wheel, although from the outside it presents a more or less square appearance. The 'spokes' of the island take the shape of great welded partitions, immensely strong, and held at the rim by an annular ring of heavy girders. On this framework the shell and superstructure were built, and the need for extra space necessitated it becoming, as I mentioned before, a square, rather than circular, shape.

"At the centre is the hub, which is a solid drum of metal some three hundred feet in diameter, the thickness of the metal drum being in no place less than twelve feet. Within this rigid caisson is the motor that supports the island, and to which we are now going."

Lane did some mental arithmetic, and came to the conclusion that the stratosphere island weighed as much, if not a trifle more, than Buckingham Palace, and spent a few unpleasant moments considering the result of a

complete cessation of the lifting power. It was not a nice thought. Finally, he asked the question that had been revolving in his mind ever since he had met Leverett in his room twenty minutes before.

"Why are you mixed up in this?" he queried bluntly.

Leverett smiled again. "I had expected you to ask that, and the answer is a simple one. Because it was the only chance I had of putting my theory of this power to the test. It seems unconvincing to you, perhaps? Let me tell you a little of what happened.

"When you develop a new theory, a fresh hypothesis, it must, to a certain extent, fit in with existing thought, unless you have—like Einstein, for example—an unshakable mathematical proof to hand over with it. If not, then you find the going, while not impossible, yet very difficult. But when, as in my case, not only have you no mathematics that cannot be met with a devastating reply, but you also need tremendous capital to prove your words, then it is indeed a heart-breaking job.

"Remember the aeroplane, Lane. It was proved impossible on paper—and it can still be. Only because the finance of the idea was within reach of an ordinary group of thinking men, was it made possible. In my case, I needed millions.

CHAPTER III

THE SECRET OF THE ISLAND

"I WAS young at the time—far from the age of discretion," Doctor Leverett continued. "After years of work, the ghastly feeling of defeat was unbearable, and I think it temporarily discoloured my outlook. So, when I was approached by someone who desired this thing built, the achievement of which could only be made possible with the aid of my discovery, I did not hesitate, and pledged myself to the full without thought or of the future.

"Can you wonder that I seized this heaven-sent opportunity to carry on my work? It seemed providential—a miracle in an age when miracles are a fable. I was given a laboratory, a far more modern and a better equipped one than I had at my disposal before, and I was given the general outline of the scheme to be undertaken—with certain discreet reservations that, at the time, made no impression on me.

"The job was more than half completed before I learned the true nature of the work upon which I was engaged, yet when I did realise the truth, strangely enough, the knowledge did not repel me. Something had changed in me, when the world of science scornfully rejected what amounted to over twelve years' intense work, and I had sickened a little of this terribly mundane civilisation of ours.

"Please don't mistake me; I fostered no animus towards it in the sense that I wished its destruction, or anything so foolish. I merely became supremely indifferent to the affairs of the world, and that I was engaged upon constructing what amounted to a tremendous pirate aeroplane base, from which the principal air-lines could be plundered with impunity, was a fact that did not disturb me in the least.

"In such a fashion this thing grew, and I became a part of it, and I am supremely indifferent as to whether the world would condemn or condone me. As a scientist, I am a seeker after truth—and I have found it."

He stopped at that moment, and stood aside for Lane to pass through a doorway that led to a spiral staircase.

"This way brings us out on to the upper cat-walk, or balcony, that surrounds the engine-room, and it will give us a much better view of the motor than we should obtain at ground-level."

It would also, thought Lane, effectively prevent a sudden "coup" on his part, should they have chanced to

pass near a control-board, and he mentally complimented Leverett on thinking of everything. The staircase, which was an extraordinarily long one, ended abruptly in a door, which Leverett opened, and Lane found himself standing at the edge of a balcony looking down on the very heart of the stratosphere island.

It was an incredible sight that met his gaze. As Leverett had said, the engine-room was a vast well, the height of which was nearly half that of its width. It had need of its size, for the equipment below was gargantuan.

Placed in a circle round the edge of the room were twelve generators of a size that Lane had never before seen, driven by equally heavy diesel motors. Only six of these, he noticed, were in operation. Forming an inner circle was a ring of thirty-feet-high structures that resembled field coils, their insulated leads connecting up to an involved erection of switch-gear. But it was the object occupying the centre of the floor that fascinated Lane the most, and instinctively he knew this was the driving unit.

In size, it surpassed everything else in the room. The shape of it resembled a great cylinder, being clad for most of its length in a silvery metal sheathing, with two gaps, spaced some distance either side of the centre, exposing a coppery winding. Lying horizontally, it was supported at its centre in immense bearings that allowed it universal movement. The bearings themselves were mounted in a framework that gave the room a most curious appearance, for the metal supports, great H and T girders of not less than seven foot sections, "splayed" out from the centre casting in all directions, giving the impression of an enormous spider's web.

JOHN LANE gazed on the assemblage in silence. At length, he said:

"All this is rather beyond me, Doctor. I can recognise some of that equipment there, but the rest has me beaten. Somehow, you've managed to defeat gravity with the aid of this little power-house of yours. Do you think you could explain it to a mere layman?"

"Gladly, though I must remind you that only through the medium of mathematics can one obtain a full appreciation of the values entailed. However, I will do my best to describe the action of this gravity-motor.

"To fully understand it, you must first of all appreciate that space is not so much emptiness, but a vast, intangible, yet very real framework, and it is a framework that is infinitely elastic. It was Einstein, if you remember, who developed the Space-Time Continuum idea, and he contended that matter 'warped' space. In other words, if a ray of light continued travelling through space for an unimaginable length of time, it would eventually return to its starting point, having described a complete circle.

"That fundamental truth was, for me, the beginning of an extensive study in that field of physics. I say truth, for before you is the proof of that hypothesis, a factual proof that nothing can gainsay. Matter does warp space, and the strain imposed upon the cosmic framework manifests itself in many directions, one of which is the phenomenon we call gravity.

"Now, many in the scientific world are of the opinion that electricity is akin to certain basic forces governing the Universe, and in this they are right. I worked on that clue, and thereby achieved my next step. I found that, given a field of force of sufficient intensity, the space-warp produced by the presence of matter was affected to a certain degree. Experiments conducted with the aid of an ample power-supply convinced me that the special lines of forces were twisted by my own field so that they ceased to affect any object within the centre of this vortex.

"As a matter of fact, I lost my first

unit in this manner, for when it became suddenly free of all gravitational attraction on the part of the Earth, not being firmly bedded down—a foolish oversight on my part—it was torn from the ground and left the Earth entirely under the impulse of centrifugal force.

"I discovered a most interesting feature during the experiments. It is possible to neutralise the field, and also to *reverse* it. This made the unit at once an extremely powerful motor, and this factor assists in guiding the island through the upper air at such a great speed."

"I suppose you have to make continual adjustments to allow for the variations in weight caused by the landing and departure of planes?" asked Lane.

Leverett nodded. "Even for more trivial things than that. Consumption of oil by the diesel motors ranks next in importance to the planes, while the air is constantly changing—we have to allow for the loss of it, which, fortunately, is fairly constant in its rate."

Lane once again turned his attention to the machinery humming softly below them.

"A wonderful thing," he said. Then: "Do you ever experience trouble with it? Breakdowns, I mean?"

"Not yet," replied the scientist. "Only six of those generators are required at any one time, to furnish the power that energises the coils. Should all six fail—an unlikely event—there are the six in reserve, which, as a matter of fact, regularly relieve their fellows every four days. The only other thing to watch is the coil itself, which gets infernally hot. See those cooling-pipes? They're constantly going at high pressure, conducting the heat away from the main field coil. At the same time, the other subsidiary coils, together with the transformers, also have their share of cooling. Otherwise, the whole thing is simplicity itself, as far as operation goes."

THEY left then, Leverett taking Lane to see the pump-room, where the air was purified and kept in constant circulation.

"We have a technical staff of over seventy on the island," said Leverett. "Who, with the one hundred and twenty-odd members of the 'action squad,' some of whom you have already met, make up nearly two hundred. A fair personnel, I think you'll agree."

"What if you should be attacked?" asked Lane, thinking of the armaments he had seen.

Leverett's face clouded. "As I understand it," he said, "for, as you must know, that is not my side of the job, it would be very unpleasant—for the attackers. A military expert designed, and had built, the armaments that defend this island, and they are capable of withstanding any onslaught."

They visited the rocket-plane hangars and shops, and Lane saw several giant fighters in the course of construction. Two of them stood finished, and with a start, Lane recognised in one the lines of a British fighting machine still on the secret lists.

"No, we didn't build that one ourselves," Leverett explained, in answer to Lane's question. "We 'borrowed' it from the R.A.F., to study the latest developments in rocketry."

In the engine-shops, Lane witnessed the casting of rocket-tubes, and saw for the first time the super-hard Driss alloy running in blinding, silver streams from the electric furnace into the mould. Guns, projectiles, explosives, metal sheeting for the wings, interior fabric, and rubber for the wheel-tyres —all were made there from the raw materials.

"This is a city in itself," muttered Lane, amazed at the completeness of it all.

"It is indeed," agreed Leverett. "In fact, so complete has it become that I toyed with the idea of giving it a nationality of its own, with a distinctive name—Astral, of the Upper Air, for

example. We *are* a nation, really, completely independent—and well able to protect ourselves."

Lane stopped and faced the scientist.

"Leverett, I believe you to be a realist; I know you are one. You cannot convince me that this, despite the wonders of scientific achievement it represents, is going to defy the laws of twentieth century civilisation indefinitely. You can't do it, man; you're fighting against absurdly overwhelming odds! Despite what you told me, I cannot fathom why a man of your abilities can waste his talent on scum like this."

A fire sprang up in Leverett's eyes.

"These scum, as you see fit to call them, are the only people in this world gifted with a quota of common sense. Without them, the fulfilment of my work would have been impossible. Lane, neither you, nor the law you represent, will ever bring us in—you ought to know that."

"In some ways, I am supremely ignorant," replied Lane.

CHAPTER IV

LANE ACTS

THE next two days passed tediously for him. He was confined to a "suite" of three rooms at the rim of the island, the doors of which, he found soon enough, were heavily locked. Food was sent to him *via* a dumb waiter in the outer room, and a guard came three times a day and made a careful inspection of the quarters.

The luxury of the apartments contrasted strangely with the sinister purpose of the stratosphere island. They resembled a state-room on a first-class liner more than a prison. Almost the first thing Lane did was to go over every inch of the rooms, in an endeavour to find something that would give him a chance of escape, but without result. The only thing that remotely suggested a possible start in this direction was the air inlet and outlet vent, with its meshed plating, to which he turned his attention from time to time.

The guard, a man of medium height and heavy build, who carried a small arsenal of three guns perpetually on his person, proved taciturn when questioned.

"Give me assistance in escaping," said Lane, once, "and I will put in a word for you at the trial. It would mean your getting seven years, instead of the rope."

"Catch me taking the word of a 'busy,'" sneered the man. "I know your sort. I've heard too much about you."

"Then you have been greatly misinformed," said Lane, but he did not attempt any further to bribe him.

It was on the second day that he arrived at a solution, and he spent all his time alone, jotting down notes on paper. He had worked out a fairly complete plant of action, when he was interrupted by the entry of Leverett. The scientist went straight to the point of his visit.

"As you know, I'm not the owner of this concern, which is why you're being kept here like this. He's arriving today, and you will know what is to happen to you, then. By the way, you seem to know so much that I'm wondering if you are aware of his identity?"

"I am," said Lane. "Proof was all I was waiting for."

"And now you've got it, you can't use it. Too bad!"

"Don't be too sure, Leverett: I might use it yet. By the way, you wouldn't like to turn King's evidence, I suppose? You'd get your chance to live, and give the world your discovery."

"I don't doubt your word, Lane," said Leverett. "But I'm sticking to my guns; I told you that before."

"I expected you to say that." Lane

rose, and crossing to the port, stood looking out at the star-studded sky. "Where do you expect this to end, Leverett? World domination?"

The scientist shook his head. "That sort of thing doesn't interest me in the slightest. But I think that the—that my employer entertains those ideas."

"Yes; he would," mused Lane. "He always was an egotist. I'm glad you don't, though. You know, Doctor," he continued, with a frank smile, "I think it's rather a pity that we didn't meet in more pleasant circumstances."

Leverett regarded him steadily for a moment.

"In some ways, yes. Perhaps, one day, we shall," he said; and then he was gone.

LANE remained standing by the window, for a purpose. With one foot, he kicked a small stool so that it lay just behind him, and glanced at his watch. The guard would be making his regulation call in exactly three minutes.

He had thought of tackling the man and overpowering him, which might be done successfully if he got one of his guns, but two factors made this undesirable. Firstly, the pirate would undoubtedly be quick on the draw, and Lane was no expert in such matters. Secondly, if he did succeed, it would not give him very much time to carry out his plan, for the guard would be missed in just four minutes. Leverett had seen to it that no such thing as a missing unit would remain undiscovered for longer than that. So, a more careful method was indicated.

The guard was punctual to the minute. He entered and made his inspection; then, as he was about to leave, Lane beckoned him over to the window.

"What's that over there?" he asked, pointing. "It looks like a plane."

The guard stared for a moment.

"Can't see anything. Meteor, mebbe. Anyway, if it's one of your pals, I'm sorry for him."

"Guess I was mistaken," decided Lane; then, as they both turned from the window, he stumbled over the stool and fell headlong against the pirate, flinging both arms round him for support.

"What the——? Trying to break your neck?" rapped out the guard, and Lane, getting to his feet, glanced at the gun-muzzle that pointed to his stomach.

"Sorry; must have forgotten the furniture," he grinned.

"Don't forget it again, Mister," replied the guard, and he left the room. But Lane had got his other gun. He walked over and picked it up from the specially arranged pile of cushions into which he had thrown it, and gave it a cursory inspection. All the chambers were loaded.

"That gives me twelve shots. Now to disturb the peace of mind of the technical staff."

Gathering all the inflammable materials the rooms possessed, he arranged them in a heap round the air-vents, and put a match to them. In a second, he had a fair blaze going, and —what he most wanted—a glorious eruption of smoke. Volumes of it billowed along the skirting, and were sucked through into the exit mesh.

"If what I understand is correct," he debated with himself, "the pump-room will receive notice automatically as to in which room the air is being polluted, and they will act accordingly. My only hope is that friend Leverett has not circulated a description of me to every member of his two-hundred-and-something staff."

In less than three minutes the outer door opened, and a grey-clad technician entered with a rush.

"Fire!" cried Lane. "Over here, in this room." Then, as the man passed him: "Start reaching for the ceiling, please!"

The technician looked at the gun, and his hands shot up.

"Sorry to do this," said Lane. "Turn round, will you?" He hit the man scientifically at the base of the neck, and gathering up the limp form, carried it into the inner room, where he changed clothes with the unconscious technician.

LOCKING the door behind him as he left the rooms, in which he had taken care to smother the "fire," he proceeded at a quick run down the corridor. At the first pressure-suit locker, he stopped and donned one of the heavy outfits, and then, arriving a little farther along at a circular glassite port, he fired three shots at it. The heavy glass flew to pieces with a deafening crash, and Lane was almost thrown from his feet by the rush of air that swept out into the rarefied stratosphere.

Struggling against the shrieking wind, he crossed the corridor to the alarm bell, and slammed down the switch. A thousand bells all over the island burst into life, and plugging in the pressure-suit's telephone cable to the television wall-phone, Lane called up the island's brain-centre, keeping his face well out of range of the vision-plate.

"Meteor hit in this section!" he announced. "Glass port shattered. Alarm has been sounded."

Switching off, he pushed up the corridor against the air-current, and reaching an emergency lift, he slipped in and descended to the midway-level of the island. Here, he paused for a moment to orient himself. Then, recognising the route as one over which Leverett had taken him, he plunged down the corridor that led to the pump-room.

Half-way along, he took the precaution to shatter four of the ports, before leaving the island's rim for the central hub. By this time, there had arisen a fine state of confusion; men running past him to the air-suit lockers, others intent on establishing communication with the island's centre for orders, but none of them taking the slightest notice of him.

He reached the pump-room door, and swept it open. Grouped around the base of one of the thudding machines were three men. He could see no more. All were armed, though their hands were full, and as Lane entered they turned towards him.

"You've been a hell of a time!" snapped one. "Why the suit, Corbett? Say, this pump——" He peered closer. "You're not Corbett—what are you doing here? And where is he?"

Lane had to shout to make his voice heard through the face-plate of the helmet, and above the din of the pumps.

"Corbett's been held up in the top-level. He sent me down to report."

"Is that so?" With one movement, the technician dropped his tool and flicked the gun from its holster. The two shots sounded as one, and as the pirate crumpled to the floor, Lane waved his gun towards the other two.

"Better keep your hands up, if you don't want the same."

He had very little time left, now, in which to accomplish a great deal. Taking out Corbett's gun, he trained it on the pumps. Three shots ploughed great furrows in the plunger-rod of one, and the pump jammed with a piercing shriek. The second he put out of action in the same way, while a lucky shot completely closed the valve of the third, so that both main outlet and by-pass were inoperative, and the cylinder head blew off with a roar. He then systematically wrecked the controls, using the dead pirate's gun for the purpose when he had exhausted Corbett's.

As a final precaution, before leaving the pump-room, he decided to put the televisor out of action, and was raising the weapon for this purpose when a gun-muzzle pressed into his back, and a well-remembered voice penetrated the glass of his helmet.

"Drop that gun, Mr. Lane," said Doctor Leverett. Lane turned slowly, letting the gun fall. With the scientist was another man, at whom he gazed with interest.

"You win, Doctor Leverett," said Lane.

BACK in Leverett's room, the brain-centre of the island, the scientist made contact with every point on the great control-board, issuing terse orders. Reports came through of the damage inflicted, and repair squads were hurried to the spots. Finally, Leverett turned to Lane, who stood under the threat of the other man's gun.

"You've done a nice job of work, Lane," he said, without heat. "At least you went about it methodically. By the way, I think you know my employer, here."

Lane smiled at the man who covered him.

"We've met before, Mr. Burners, so we can dispense with introductions. I should have had you arrested before I left London on the *Atlantic Star*."

"Damn smart, aren't you?" snarled Burners. "Leverett, why didn't you finish him off while the island was in one piece?"

Leverett looked amused. "My dear fellow, I'm no murderer. Besides, Inspector Lane has a genuine appreciation of my gravity-motor. To have eliminated him would have destroyed part of my public!"

"Are you mad?"

"No; but I prefer to look at things from a rational viewpoint, which is more than you do, Burners."

The phone-bell rang, and Leverett lifted the receiver. The conversation was a brief one, and he replaced the receiver with a strange deliberation in his manner.

"I hope, my dear Lane, that those pumps you manhandled will be back in operation soon. Actually, the head technician doesn't think they will be, and I'm inclined to agree with him."

"What the blazes do the pumps matter?" cried Burners. "We've got enough air to last over fifty accidents like that."

"It's not the air that I'm worrying about," replied Leverett. "Lane, I can't help admiring your nerve. You wrecked those pumps, knowing full well that they also operated the cooling system of the gravity-motor!"

Burners's jaw sagged. "Say that again, Leverett."

"The only means by which the gravity-motor coils are cooled has been put out of action, and unless they are operating again very shortly, they will overheat, and fuse!"

Burners's face had gone a dirty white. "What would happen then?" he asked, though he knew well enough.

Leverett stroked his chin thoughtfully.

"The localised twisting of the space-warp must be collapsed gently, in easy stages, which means a gradual damping-out of our own artificial field of force. If the space-warp snapped back . . . You know what happens when you switch on an electric light? There is momentary excess pressure—a surge. Well, we should experience a similar surge of power when the special lines of force whip back to their previous form, and no matter existing could withstand that titanic blow. The island and all on it, down to the last atom, would disintegrate."

CHAPTER V

THE FATE OF A DREAM

BURNERS looked ghastly.

"We've got to get out of here, Leverette—get away from this place, d'you hear? There's time yet. We can clear out all the negotiable stuff in the safe, and at least some of the equipment——"

Leverett stopped him.

"Pull yourself together, Burners, and stop talking like an idiot. Where do you imagine we could get to? Our planes are known to every pilot in the world; we could get nowhere without detection. Our only course is to stay here, where at least we've got a chance of life——"

The phone-bell rang again, and Leverett listened carefully. Then, replacing the receiver, he looked up at Lane.

"I'm afraid our joint destinies will run but for a short time," he said softly. "The pumps cannot be repaired in under twelve hours."

Lane marvelled at the scientist's extraordinary calm. He had said those few words with the same tone of voice that might have accompanied a remark on the weather.

He breathed heavily. "So the island's done for?"

"In exactly six hours," said Leverett, "the stratosphere island will, without warning, cease to exist!"

Then Burners went mad.

"He got us into this!" he screamed, snatching the gun up from the table where he had laid it. "Well, you'll go now—you won't have to wait six hours!"

Lane sprang as the frenzied Burners squeezed the trigger, and the bullet smacked like a fiery hot iron into his shoulder. Then, as he stumbled blindly against the desk, there came another shot; and Burners, a vacant, stupid expression in his glazing eyes, slumped to the floor.

"It seems," said Leverett, "that I am a murderer in spite of myself." Then he laid down the gun, and caught Lane as he fell.

"I'm all right," muttered Lane, wincing. "Only a flesh wound, I think. Thanks, Leverett."

"I appear to spend my leisure hours saving your life," observed the scientist. "Which is illogical, seeing that you're out to get me hung."

Lane took hold of the other's arm.

"Look here, Leverett, I don't want to see you go out this way. I'm only concerned with getting these pirates behind bars, not a scientist who has as great a value in the world as you. As far as I'm concerned, you have been working for Burners under duress, and that constitutes no crime. Believe me, the good you will accomplish will far outweigh all this!"

Leverett was silent for a while; then he looked at Lane with genuine regret in his eyes.

"I'm grateful for this, Lane, but I'm sorry; it just can't be done. The least I can do is see that you get out of this safely. I'm getting a plane ready now, and I'll give you a pilot—he has been our prisoner for some time now. For myself, this happens to be the best way out. Good-bye, Lane, and—good luck!"

Without another word, the scientist left the room. Fifteen minutes later, Lane was escorted to the hangar, where a grey-painted rocket-plane stood on the lift. In the cockpit he met the pilot, a former mail-plane man who had been captured while carrying bullion. They spoke no word as the lift rose and brought them level with the island's deck. Then, as the brakes were released, the pilot opened the throttle and the ship sped forward, to rise from the island in a furious burst of speed.

"I think we're over the China Sea," said Lane. "As soon as you get oriented, make for London, and do it all the way on the rockets."

The plane accelerated until the speed was well over fifteen hundred miles per hour.

"Sure these wings will stand it?" asked the pilot anxiously.

"They'll have to," retorted Lane, though he was well aware of the danger of them giving way under the enormous strain. As they entered the denser layers of air, the plane bucked and swayed horribly; but he would not have the speed relaxed. He *had* to reach

London and return to the island before the great, metal structure was wiped out of existence.

TWO hours and forty minutes after they had left the island, the pilot damped the rockets, and swept the plane down in a steep dive for the ground. Just three thousand feet up, he pressed the nose-rocket control, and a gout of flame shot outwards in a frantic effort to check the plane's momentum. Lane was flung against the dashboard with cruel force, so great was the deceleration. They landed crazily, splitting the undercarriage clean from the fuselage, and skidded wildly across the landing field on the plane's belly.

Lane was out of the machine almost before it had ceased sliding, and was running to meet the group of officials who had been witnesses to the astonishing landing. He showed his authority to the Airport Supervisor.

"Contact the Air Force stations, and get every plane they can muster into the air!" he ordered swiftly. "For the love of Heaven, be quick about it, or it may be too late. Get one of the planes to pick me up here."

Four minutes later, a six-seater fighter glided down on the tarmac, and Lane jumped in.

"Let her rip!" he snapped. "Join up with the rest of the force, and I'll issue instructions. How many planes have we got?"

"Twelve squadrons in the air now," replied the Commander. "Enough?"

"Quite enough; but they'll have to move fast, if they're going to make it."

"They will," was the eloquent reply.

The Commander was amazed at Lane's description of the floating island.

"Small wonder that nobody could find their base! Do you expect any resistance, or is it in a complete state of confusion?"

"I imagine they'll be too busy getting out of that death-trap to resist, from the island itself, but once they're in the air they will."

They met the fleet of planes a few minutes later, and Lane gave orders for the direction of flight. Then the motors retracted, and the one hundred and twenty planes swept into the infinite with a shattering roar of high-power rockets. They had reached the altitude of one hundred miles when they sighted the tiny speck of the island, quite twenty miles above them.

"It's rising!" cried Lane. "That means planes are leaving it. Look, there are some of them now!"

Pin-points of light moved across the stars, trailing a hair-like wisp of flame. A squadron of battle planes detached themselves from the main fleet and soared away at an angle, their exhaust flames spewing a blaze of glory over the sky, as they climbed at a steep angle to intercept the escaping pirate ships.

Lane glanced at his watch. "There's just thirty minutes left before that island tears itself to pieces; and remember, that's only approximate. She may go up before then."

The fleet spread out, even as they climbed, two squadrons on the left flank rising upwards like the swinging blade of a great jack-knife; and as they approached the island, the "knife" commenced to close. As they hurtled down, it became apparent that Lane was right, for no gun-flash broke the shadowed lines of the great island. But plane after plane rose from the lift, and soared upwards from the doomed structure. In that moment, Lane felt a pang of regret that such a magnificent achievement of science should be ending in this way, attacked by the very people to whom it might have proved such a boon.

Then they were among the pirate planes, and Lane watched as one after the other was shot down with a precision that was astonishing. They fought back, but it was hopeless. Caught unawares, they had little chance against the crack fighting planes, and the last one twisted down, a flare of

burning rocket fuel, within ten minutes of the first encounter.

LANE'S ship dropped, angling down to land on the great platform beneath. Then the radio alarm bell rang.

"Hullo! Calling John Lane! This is Leverett speaking. I advise you not to land on this island. The gravity-motor coils are white-hot, and they cannot last more than two minutes. Get yourself and the air fleet out of this region at once. I don't want to see decent men killed for nothing. Do as I say!"

The Commander looked inquiringly at Lane, and the latter nodded.

"He's telling the truth. Give the order to withdraw at once!"

The fleet of planes rose swiftly, banking away from the island at great speed. When they were two miles distant from the island, they turned and rode in a wide circle, waiting . . . waiting for that great thing to—— Lane wondered what would happen; whether it would fly to pieces visibly, or dissolve into dust, perhaps——?

He stiffened. The fifty-thousand-ton island had *jerked* suddenly. It had twisted to an impossible angle, and hung there, its outlines vaguely blurred, for a fraction of a second. Then, like a cinema film that breaks—it vanished!

For a moment there remained in its place a hazy, wildly swirling blackness, a complete absence of light that seemed to live, and then a sickening wrench was felt by every man watching in the planes. It was a ghastly, inward tearing sensation that twisted the eyes and brains in an excruciating wave of agony. Momentarily, the stars gyrated as though seen through water. Then everything steadied, and before them was no sign that a massive island of steel had ever existed; no scrap of metal, or fluttering splinter of wood, remained.

"Merciful Heaven!" muttered the dazed Commander. "What happened to the thing?"

"It was torn completely out of this space," said Lane, in a strained voice. "The space-warp collapsed suddenly when the gravity-motor ceased functioning, and wiped it out of this dimension entirely." He gazed dully at the spot where the island had been. Though the pirate organisation was now crushed for ever, the victory, for him, had lost all trace of flavour. To have eliminated with them a man as great as Leverett was a price too high to be called justifiable; it was a tragedy of the first magnitude.

"We did all we could," he said wearily. "The only thing that remains is to try and find some record of his work in his old laboratories, if such records exist. I doubt it, though."

The fleet wheeled into line. Still wrapped in thought, Lane gazed idly at the ordered formation below them.

"One of your planes is in trouble, Commander," he remarked abstractedly. It was lagging behind, drawing well away from its fellows. Then, to his astonishment, it banked steeply and dived, with the rocket-motors at full blast, and plummeted out of sight at an appalling speed.

The Commander, who had not seen it, looked up from the illuminated panel before him, upon which was indicated the position of every plane in the formation.

"You must have made a mistake, Mr. Lane. The entire flight reports everything O.K."

Lane jumped to his feet. "Leverett! What a fool I've been to think he'd let himself be snuffed out like that!"

"But that's impossible—every pirate plane has been shot down."

"He had an Air Force machine!" rapped out Lane. "I saw it myself on the island; he only had to drop from underneath—that hangar went down to the base of the structure—and he could join up with the formation unnoticed!"

[CONTINUED ON PAGE 101]

A Scientist With Imagination Takes You On A Trip To The Red Planet, To Witness The Wonders Of The Martian Civilisation

LIFE ON MARS

By

PROFESSOR A. M. LOW

THIS is an age of scientific miracles. Supposing, then, that some wonderful new travel-machine could project you through space and set you down safely on the planet Mars—what would you expect to find? Let me tell you what *I* would expect . . .

Mars, as you probably know if you are interested in astronomy, is a much older world than ours. Only about half the size of our Earth, and one hundred and forty million miles from the life-giving Sun, it does not receive the same amount of light and heat that we enjoy. In the first place, then, it is fair to assume that its greater distance from the Sun, coupled with its smaller size, enabled Mars to cool down more rapidly in that far, far period of its celestial birth.

Our observations of the planet also lead us to assume that conditions favourable to life exist there. In fact, to me, it seems almost absurd to deny the existence of some kind of life in that distant world. But we must remember, in our conjectures, to bear foremost in mind the rather chilly conditions which apparently obtain there, because of its rarefied atmosphere and its distance from the warming Sun.

Climate governs life; and on Mars, generally speaking, there is intense cold. You and I might be frozen to death if we ventured out of our insulated spaceship. But if another scientific miracle could acclimatise us, what manner of life might we find? Would we meet with the inhuman, spider-like monsters pictured by certain of our fiction-writers? I think not.

My own idea of a Martian is a creature not unlike us Earth-men in general form, but perhaps with a much larger head, the result of greater brain development, and a massive chest to allow of lungs that have necessarily expanded as the air grew thinner and thinner. He might even have wings, as well as arms and legs, hands and feet—after all, only some accident of evolution prevented *us* from being winged. But, having gradually abolished all physical work in order that his brain may become more effective, his limbs will have shrunk to a point where they can most usefully be used to operate a mechanism which will do the work for him.

His nose, no longer wanted for a delicate sense of detection, will probably have become blunted; and I would expect to find the Martians quite bald, with no teeth and no nails, and probably using head-protectors from birth. They may carry an apparatus providing artificial heating for their bodies; perhaps other machines will help them to hear, to see, and to smell.

Possibly, my Martian would be smaller than ourselves. Nature, once she has passed through the growing stage, tends to refine her product, and he would have no need of his earlier, unarmed stature when he had to combat savage animals. I might seem a monster to him. Certainly, I believe I would seem a crude barbarian, and immensely strong, in view of the difference in gravity.

THE early cooling of Mars might have enabled life to commence there many millions of years ago. Civilisation after civilisation would have flourished and died before our own advent as inquiring visitors to the planet. Hence, it is fair to assume—since human life is ever striving after ideals, ever seeking greater pinnacles of achievement—that this succession of social experiments would have finally produced a race of an extremely high standard of intelligence.

I imagine the Martian as a Thinker, highly cultured, a master of invention, a master of Mind; naturally, a sensitive being, highly receptive to the thoughts of others—and able to read my own mind much more quickly than I could ever read his. He would, I think, sense my reactions and emotions immediately; he would know just what to do to put me at my ease—or what to do to kill me, as I would treat a culture of dangerous bacilli!

But I do not think he would do that. He would be far too interested in me as another specimen of life. Though he might think me a sluggish type, with a

The recent approach of the planet Mars to within 36,000,000 miles of the Earth—the nearest it has been for fifteen years—has revived the ever-popular question of whether or not this ancient world is inhabited by intelligent beings. Most astronomers, having doubts about those mysterious markings on the planet's surface which Lowell suggested were canals, but which have since been thought nothing more than an optical illusion, are inclined to the belief that Mars is a world devoid of sentient life. But Professor Low, besides being a practical scientist with a hundred useful inventions to his credit, also believes in applying his powers of speculation to such problems. And he not only succeeds in convincing us that the Martians *do* exist, but by drawing upon his vivid imagination, shows us what sort of creatures they may be, and gives us a glimpse of the wonderful world they must live in.

regrettable resemblance to the animals of Mars' past which have their counterparts on Earth; a "throw-back" to some prehistoric type of Martian, perhaps.

How would our Martians be clothed? Undoubtedly, all those millions of years ago, when the primitive men of Mars hunted beasts for food, just as we did —though much later—on Earth, the hides and thick furs of bear-like animals would have provided their coverings. But I can conceive of the modern Martian being dressed in some peculiar material, completely cold-proof, to enable the wearer to resist the chill atmosphere of the planet's surface, and fashioned by Martian electro-clothiers so as to fit very closely to his form.

But I do not think he would live on the surface of his world. It is far more likely that he would long since have built his cities underground, taking advantage of the natural warmth which is also to be found in the upper crust of our own planet, where the layers of rock hold the heat radiated by the central fires at the core. And we should have to descend into one of these cities to witness the wonders of Martian life.

So, imagine our Martian conducting us down a great shaft in a kind of auto-gyro, to which the motive power is broadcast from the city below. At the bottom of the shaft, we would pass through an air-lock which would shut out the cold upper atmosphere. We might step out, then, to find ourselves in a brilliantly lighted, underground roadway, where the agreeably scented air would be regulated to a comfortable temperature.

Another stream-lined vehicle might receive us for swift transport to the city's centre, a vast space thousands of feet beneath the surface, supported by giant pillars. Here we would find the main meeting-place of the citizens, the automatic Parliament, the museums and Government laboratories of the Martian world.

THE museums, I fancy, would be an important feature of every city; they would be, in effect, the schools of Mars. Here would be stored the relics of all the past civilisations, for the edification of the young, and pictures showing the main events of Martian history would be displayed. These might be pictures made by the first Martian experimenters analagous to our own pioneers of cinematography —just as we to-day sometimes show our early films as curiosities, and as a valuable record of the beginning of the century.

But instead of seeing bustled and corseted ladies, primitive motor-cars and old-fashioned aeroplanes, the young Martians might be getting a glimpse of their ancestors of thousands of years before, and their weird and wonderful inventions. The more modern pictures of their life would not, however, be recorded on celluloid film: that would have passed into disuse ages ago. Their own, current recordings might be on wire coils or metal disks; light, portable, permanent as their ingenuity could make them. These would provide sight and sound, of course; though they might even transmit impressions directly to the brain, as mind-pictures.

Many of these educational records would be made with the help of gigantic telescopes, or apparatus which would achieve the same results, or even better. They would show the young Martians the wonders of the Universe, giving them, with tremendous magnification and clarity, unlimited views of the planetary and heavenly bodies. It might even be that we ourselves would be treated to "close-ups" of our own planet's surface, taken by Martian long-range recording machines.

If we sat among the young people of Mars, in their classes, we might see glimpses of its early animals, of the first flight-machines, and of the later rocket-ships—for I think the Martians would prove to have mastered the art

of space-travel, which we have yet to learn. It is possible that they have sent out many expeditions to the other planets; perhaps, in our distant past, to Earth.

We might even learn, through their picture-records, of attempts to bombard the Earth with monster guns—shown to us visitors by the modern Martians, rather apologetically, as evidence of the "barbarians" who were their forebears. Perhaps we would learn, too, of many attempts to signal to us—with light, with radio, or with rays of which we on Earth as yet have no inkling.

But there would be nothing crude, bestial, or spider-like about the Martians, I think. Rather, a more spiritual quality; and certainly a far finer intelligence than ours, though it is possible the Martian man and woman would have a colder, keener sort of outlook on life—more the mind of the research worker than that of the emotionalist.

Reason, playing such a large part in Martian life, would be the governing factor in social ethics. For instance, I can conceive that not many civilisations would have passed before basic laws were inaugurated, whereby all wrong-doers would instantly be put to sleep for any period of years, irrespective of their sex.

ALL Martians would be trained to work for the good of the entire planetary community, passing through the regular curriculum of training under the great Teacher Class of Mars, whose life's work would be the guidance of young minds towards this end. Then would come specialised training in one of the many laboratories of investigation and research; and I can visualise the time when those who do not make satisfactory progress are painlessly lethalised.

Pre-natal education, the removal of sleep poisons by electric radiation, and the insertion of additional brain into an existing cranium, may be quite common. It is very probable that Martians who would otherwise have died will have had their lives extended by many years, by means of artificial hearts, lungs, and other organs. No doubt the stomach would be occasionally employed to prevent atrophy, but their main nourishment would be taken in concentrated form.

I cannot see the Martians indulging in eating orgies. The banquets and dinners that we know would be things of the very dim past, on Mars. A sustenance pellet, swallowed perhaps twice a day, might be the fuel for the human engine there; and it would be ample to keep the body nourished and fit, being a tiny compound of all the vitamins necessary to support life. Such food would, of course, mean that the Martians have evolved a different digestive system from ours, and this might make them a very slim-waisted race.

Drink, too, might be measured in drops. Alcohol would probably be forbidden, or unknown—a thing as remote and forgotten as the potent liquors brewed and consumed by the old Viking sea-rovers of Scandinavia. Even on Earth to-day, we find fewer and fewer natural vegetable and fruit products being used in the making of liquors, and chemicals serving as the basis for many drinks. A Martian drink, I imagine, might be three drops of a special invigorating fluid, taken in a small quantity of synthetic water.

There would be no policemen on Mars—not as we know them—to enforce law and order. Perhaps a corps of wise men, skilled psychologists, to deal with agitators or insane Martians, if such there were. The injection of a serum, a form of ray treatment, the removal of a gland, or some sort of "mind-massage," might be the methods employed to cure the unruly one and make him a useful member of the community.

And there would be no accidents to hazard the lives of the people in the subterranean cities of Mars; no terrible toll of the road, Belisha beacons, or

pedestrian crossings such as we have. All traffic would proceed on well-regulated lines, with the risk of accident almost entirely obviated. Though, if they were winged, there would be no need for a great number of passenger vehicles to provide transport for the flitting citizens, who would find our motor-buses, steam-trains and underground railways rather laughable, I think. For they would be using their marvellous ray-energy to power their vehicles, having discarded electricity—as we know it—several thousands of years before.

WOULD there be sex and love on Mars? Certainly! Why not? This is how Nature keeps human life going, through all its vicissitudes. But I think that the children would be very precocious, would soon grow up to choose their love-mates, and that their own children, when born, would be reared and trained by specialists rather than by their parents.

Love is a force sufficiently strong to have brought man into being from his lizard-like ancestors, and it is certain that the Martians would understand it and employ its colossal power. Eugenics would be practised, of course, and our system of marriage unknown amongst them; and they would long since have solved the problem of breeding for fitness and mind-production. It may be that all weakly specimens on Mars would be killed at birth, painlessly, and that Martian mothers were quite resigned to this, recognising it as for the good of the whole planet.

"What educated Martian mother would wish to retard progress by having us rear a backward child?" one can imagine the specialist Teachers saying. "Bring us your best, that we may make great people of them."

The arts, I think, would play their part in Martian life. Not so much acting, which is often weak stuff, and emotional and sensational at best, but music and picture-creation by hand. The music, I imagine, would be marvellous: great, sweeping melodies expressive of the highest ideals of the soul; though I doubt if Martian music would be audible to human ears. Picture-making, there, might call for pigments other than the paints used by terrestrial artists.

There would be zoos on the Mars that I should expect to explore; immense places where the descendants of the early animals of the planet would live, as specimens of what had been—except, of course, for those species which had become extinct before these ancient institutions were inaugurated. These zoos would be strictly educational, serving to supplement the historical records.

I can imagine the Martian going through a constant process of education, rather than spending most of his life doing dull, routine work to keep himself alive; there would be no need for a large working class, owing to the comfortable conditions of existence there. Government food-stores would stock the life-giving pellets and liquid drops, and his service to the community would entitle the individual Martian to food, clothing, education, and all the other advantages available to him.

ON CERTAIN segregated parts of the planet, it is conceivable that the Danger Corps of Martion scientists might be at work—sending out interplanetary exploration ships; tunnelling deep down, nearer and nearer to the planet's core, examining the lower strata in search of minerals; testing new ray inventions, all with the idea of improving conditions of life, and not to make war. I need scarcely say that the transmutation of metals would be a commonplace with them, and they would know all there is to know about atomic structure.

War, I imagine, would be a thing of the past on Mars. The internecine strife of lost "barbaric" ages would be re-

garded as typical of the early Martian mind, to be scorned as retrograde, futile, and utterly absurd. If they still aspired to conquest, as a race, it would be against other worlds that they would concentrate their devastating weapons, which would in no wise resemble our crude armaments.

Their methods of making war would be more subtle, more merciful. I can well imagine that, tired of attempting to signal to us poor creatures by simpler means, they might be busy even now, arming themselves for an inter-planetary *telepathic* attack. And, if we have correctly judged the Martian mentality, it seems evident that we would benefit greatly from such influences as they might exert on our feeble minds. It would be a benevolent invasion, rather than a hostile one.

I can conceive the keen-brained, highly-specialised Martians as perpetually looking into the future, striving to master interstellar space and to break down the barriers of the void. I see them as complete masters of their own ancient planet, seeking fresh fields of conquest in other worlds, with new knowledge as the prize. For all we know, they may have reached planets other than our own, and already established themselves upon these worlds, which might be outside our own little system.

For all we know, the Martians might even be here on Earth, *now*. Perhaps they are invisible to us; perhaps they exist as pure thought; perhaps they are amongst us every day of our lives, as we talk of spirits and of things utterly beyond our present understanding.

DO YOU THINK THERE IS LIFE ON MARS?

If you do, let us have *your* conception of the Martians and the world in which they live. After reading Professor Low's remarkable vision of Mars as he imagines it, you must have some interesting ideas of your own, perhaps completely different from his.

Write down these ideas and send them in to the Editor, who on Page 2 of this issue writes on the importance of Imagination and of how you may assist scientific progress by ventilating your thoughts through TALES OF WONDER. In our next (Winter, 1939) issue, we shall present a selection of the most imaginative and interesting Ideas received. A prize of Ten Shillings will be awarded for what the Editor considers the best Idea, or collection of Ideas, submitted by any one reader, and four consolation prizes of Five Shillings each will be given for the next best Ideas.

You need not write a long account; merely a short description of what you imagine the Martians to be like, how they may live, what wondrous secrets of Science may be theirs, and any other speculations you may have concerning them. Try to keep your description as short as possible, and do not let it exceed 500 words, at the very limit.

Address your imaginings to TALES OF WONDER, The Windmill Press, Kingswood, Surrey, marking the envelope *"Search for Ideas,"* and sending them to arrive not later than October 28th. Then watch out for them in No. 9 of our magazine, to appear at the end of December, when we shall ask our readers to exercise their imaginations on some other topic giving room for fascinating speculation, in pursuance of our unique *SEARCH FOR IDEAS.*

What Was The Nature Of This Silent, Devastating Foe That Swept Mankind Before It, And Made Of Every Conquered Land A Shining Wilderness?

THE CRYSTAL MENACE

By

GEO. C. WALLIS

Author of *Voyage of Sacrifice*, *Across the Abyss*, *etc.*

FOREWORD

OF ALL the catastrophies that could be imagined to threaten this old world of ours—or rather, to threaten *us*, the flower and fruit of evolution, as we deem ourselves—the one actual peril that almost overwhelmed us was the most unlikely, the least predictable of all. Who could have guessed, in their wildest flights of fancy, that in the grim, cold wastes of the Antarctic Continent, bred of the ice and snow, would arise such an enemy?

And I, Frank Waterson, least of all? For I held, prior to the year 1951, such decided views on Life and Intellect; Haeckel and Buchner were my mental guides, and no one could have been more scornful than I of the possibility of Thought apart from protoplasm. Without the presence of the complex carbon atom and its many wonderful affinities, I believed that there could be no life, no consciousness or reason.

It is somewhat ironic, then, that I should become the chronicler of this unexpected challenge to my most cherished convictions; and not only to my convictions, but to the very existence of our race and civilisation.

The reality of that peril has left its mark upon me—an indelible mark. I no longer dogmatise about things beyond ordinary human experience, nor write down those who differ from me as bigots or fools. I recognise that the Universe is not only more mysterious than we know, but that it is more mysterious, and more complex than we shall *ever* know. Above all, gone is my old, assured peace of mind, my confi-

dence in to-morrow. I walk, as it were, looking back over my shoulder.

There will never be absence of Fear again. At any moment, for all we know, Nature may spring another dread surprise upon us, and disaster may again sweep the planet. Will the human spirit always rise to the occasion, always face and rout its foes? I wonder! Let us, at least, hope so, or very black indeed will seem the dim screen of the Future.

It is hard to conceive of life in any other form except that with which we are familiar, and harder still to conceive it having any other basis than that of protoplasm, which the scientists say is the basis of all life. But our versatile author has formed an ingenious idea in contradiction of all orthodox notions, and written an absorbing story around it, depicting the appearance of a new type of life which manifests itself upon Earth, complete with a strange intelligence. Those readers who demand originality in their tales will find it here, presented in Mr. Wallis's usual convincing and fascinating style.

CHAPTER I

THE ICY PERIL

THE first hint of the coming terror was conveyed in a radio from the whaler *Mary Thorne*, then on her way to the fishing grounds near Enderby Land, in the Spring of 1951. It was evident that the vessel had been driven out of her course; had been caught in the West Wind Drift, and was heading for Kerguelen Island. The message was strangely disturbing, alike for its purport and the sudden way in which it was cut off.

"S.O.S.—S.O.S." came the signals; and, after giving the ship's position—49° S., 39° E.—"S.O.S.—S.O.S." again. Then followed this remarkable statement:

"*Mary Thorne* calling. Can hardly describe what is happening. About an hour ago, a number of small rings, of some glittering material, fell from the sky and attached themselves to the vessel. For a few minutes they seemed lifeless, and some were picked up and thrown overboard. They were very cold to the touch, and in a short time they began to increase in size, rapidly growing, as we could plainly see, by eating into whatever substance they had settled upon.

"Long Pete, our harpoonist, had clutched one of the rings in his hand, but threw it away from him with a scream of pain. It had, in the short time he held it, eaten away a deep circle of flesh. All over the ship, these things are eating into the hull, devouring wood, rope, iron. Even the spray that washes over the decks seems to be extra food for the icy rings.

"They are eating into the ship's sides, into the boats, and the men are now fighting them, frantically, whilst I am signalling. . . . We shall have to take to the boats, if they are not already holed. . . . Some of the things are eating through the roof of my cabin. . . . My God——!"

And with that cry, the radio abruptly ceased.

I was outside our News Editor's den—didn't I tell you I was a reporter on the *Cape News?*—when this message came through. Two minutes later, "Barker"—that's our Chief's moniker behind his back—jammed down the button that fetched me into the sanctum.

"Job for you, Frank!" he snapped. "Something right in your line. You

covered that oil find in the Antarctic last year—didn't do so bad. Read that; then jump to it!"

"Jump?" I asked, in my mildest manner. "Where to? How?"

"Don't be so dumb!" he barked, showing his teeth. "Do I have to carry you about, or do the story for you? Here's a scoop waiting to be collared, and you want to know how to get to it! Bah!"

"How do you know it's a scoop, Boss?" I retorted. He growled like a bear with a sore head.

"Good thing for some of you youngsters that you had fathers and mothers! Just for your information, I've already booked you a passage on the *Erebus III*. She leaves port in less than an hour, so you might as well start thinking about ordering your cabin trunk. How do I know it's a scoop? Just a hunch. Now, scoot!"

That was how it started. That was how I got mixed up in the world peril. The *Erebus III* was a British research vessel going to the Antarctic. She had put in at the Cape for last supplies, and to pick up a meteorological expert. I rushed to my apartment, hurriedly packed some heavy clothing, my razor, toothbrush and pipe, and taxied to the docks. They were casting off, but I scrambled aboard just in time.

The captain, a hard-bitten sea-dog who had spent many years in the chilly South, greeted me without any marked display of enthusiasm.

"Somebody must have pulled some strings," he said. "Ship's crowded enough already. Lubbers and ladies—ugh! If she comes to grief, don't blame *me*."

"How do you mean, ladies?" I enquired.

"Get below, and you'll see!" was all the answer he flung at me. "Below there! Let go!"

I dived down the hatchway, asked for my bunk, and was directed down a dimly-lit alley. I opened a door, and bumped into a radiant vision.

"Sorry!" I stammered, meeting the level gaze of a pair of steady, grey eyes in a face as lovely as an artist's dream, framed with a wealth of dark, burnished curls.

"My fault as much as yours," responded the vision; and the moment she smiled, I knew her. I had seen her portrait in the papers so often.

"Might as well get back ashore," I said, gloomily, "as far as my chances of bringing off an exclusive are concerned. When Marjorie Lennard gets after a story, it's as good as got! All the same, I think I'll stay aboard. It'll do me good to watch you work—learn things, pick up useful hints, absorb the rudiments of the business."

"Aren't you witty, Mr. Waterson? Er—it is Mr. Waterson, isn't it, of the *Cape News?*" replied the world's most famous free-lance journalist, putting out a shapely hand. "Why should we frighten each other? Shake and let's be friends! I have a sort of feeling that we're on the track of something really big. Better help each other."

SO WE shook, and went into partnership from that moment. How far, into what mystery and danger that partnership would lead us, we had not the least idea. Yet it was strange that she, like old Barker, had a hunch about the affair. Unconscious telepathy? Previsionary disturbance? Psychic knowledge? Or mere coincidence?

The officers and crew of the *Erebus III*, once the voyage was actually started, did their best to make us comfortable, and even the grim captain relaxed when Marjorie smiled at him. Her fame was world-wide, but it was her beauty and charm that weighed more than fame or notoriety. She was the only woman aboard, too, and every man was her slave.

The ship was well-equipped, with ample engine power, and made good progress towards the scene of the mys-

terious disaster. Other vessels were also racing to the spot, one of them the American cruiser *Caliban*, which had come round the Horn and was crossing over to Tasmania. From her, we got radio news on the second day out:

"Picked up seaman Arthur Jones, apparently sole survivor of the *Mary Thorne*. Clinging to upturned boat, exhausted when rescued, and could only utter a few sentences before he died. 'Ship complete wreck,' he said. 'Crew all gone, boats holed. Ship became like an iceberg—shining—shining. . . .'

"That was all we could learn from him. He was in a pitiable state; small circular marks, like burns, all over him. Cruising around looking for any other survivors, or wreckage.—*Caliban*."

But, except for Arthur Jones, no member of that ill-fated ship's crew was ever seen again.

"What on Earth can it mean?" puzzled Marjorie, wrinkling her forehead adorably. "Where can these destroying, icy-cold rings come from? And the ship turned into a glittering iceberg? It seems as if the things, whatever they are, had covered the vessel with a mass of ice-crystals. But why? Why?"

Crystals! Though we did not know it, then, it was this word that first put us on the track of discovery—pointed the way to almost unbelievable knowledge.

"It stumps me!" I confessed. We happened to be alone on the deck forward, and I welcomed the chance to keep her to myself as long as possible. "It stumps me completely. Of course, by some unexplained freak of Nature, storm, whirlwind, or sudden drop or rise of barometric pressure, these ice-rings may have been formed on the glacier plateau, carried out to sea, and chanced to fall on the *Mary Thorne*. But why they should eat other objects, grow larger by absorbing wood, iron, and even human flesh—well, it just doesn't make sense!"

"And yet, Frank"—already we had dropped all formality and were using each other's Christian names—"it was real enough. The wireless operator was in the grip of genuine terror. Even if we tried to think his story a silly joke, those last words of poor Arthur Jones surely settled the matter. I don't think we can explain it at all. I have an uneasy feeling that somehow—oh, I know it sounds ridiculous!—that somehow there is life and purpose, perhaps even hostility to humanity, at the back of it."

"I don't get that, Marjorie. There's no evidence, far as I can see. No sign of living beings being reported—just ice-crystals behaving in a peculiar manner. Anyway, we have some good scientific johnnies aboard who will no doubt dig down to the root cause of it all, if we happen to run into any more manifestations. We might even pick up the *Mary Thorne*, disguised as an iceberg!"

Marjorie's eyes clouded over. "I don't like it at all, Frank; I don't really. Between you and me and the mainmast, my success to date has not been due to any special flair for news, or brilliant brain-work. I've had hunches; that's all. I've played them up for all they were worth, and every time they have turned out right. I've got a hunch over this business, and I feel there is more at the back of it than a mere meteorological accident.

"And, what's worse, I'm feeling rather afraid. Supposing some of these greedy rings fell upon *us*, and turned the ship into a shining berg? We are making no preparations against such a danger, because we don't know how to fight it."

"Must have a talk with the captain about that, to-morrow," I agreed. "If we have only to deal with precipitated frost crystals, heat is the remedy, and a few jets of super-heated steam should dissolve the things before they can do much damage. But as for life and purpose, don't let your fancies run away with you, dear girl!"

"I'm not," she insisted. "In fact, I feel so strongly about it that I'd tackle the captain now, if it wasn't so late.

Still, we'll see in the morning. Let's go below, now."

WAIT till morning! If only we had spoken then! But how were we to know that the danger was so near? Just after daylight, in the glow of an unusually red dawn across the chilly sea, the icy peril leapt upon us.

The look-out man gave us the first warning. He cried out suddenly, pointed upwards, and then appeared to be plucking furiously, frantically, at something on his left arm.

A light sleeper, I was already on deck, intending to watch the unfolding of a Pacific dawn; and before the man's warning cry could be repeated, Marjorie rushed up to join me. Wrapped in a wadded, high-collared coat, she looked entrancing, but we had other things to think about. The sight that met our eyes was almost unbelievable.

A cloud of small objects, glittering warmly in the red glow of sunrise, was settling down upon the ship. Some fell into the sea, and appeared to dissolve. Others attached themselves to the vessel, fastening on wood, iron, rope and brass; others caught and clung to the clothing, or the skin, of the crew. They were tiny rings of brilliancy. We shook them off, fought them with feet, belaying pins, anything that was handy. Quite a few we smashed to fragments, but still they came, floating, dropping down upon us by scores, by hundreds, in a glittering rain.

And where they fell, and stayed, *they grew in size,* eating their way through softest cloth, hardest metal and toughest flesh—growing with what they fed on. Beginning as rings about two inches in diameter, they quickly doubled in size and bulk.

We were literally overwhelmed, panic-stricken. I roared out to the captain to turn on our steam jets, but he was in a frenzy of desperation, trying to get rid of several rings which had attached themselves to him; and yelling blue murder. Marjorie and I managed to shake off our particular attackers somehow, and made for the boats, which were kept ready provisioned for all emergencies.

"Slip below and grab a few more things, Marjorie," I urged. "I'll stand by. A few of us may get away. Hurry!"

"What's the use?" she answered. "Look! There's not a boat that's seaworthy."

She was right. The tarpaulin covers were dotted with round holes through which the falling rings had eaten, and worse still, every boat was holed in several places.

It was a terrible moment. Men were rushing about, cursing, swearing and screaming. A mast fell crashing, dragging broken tackle, and laying out a seaman and one of the scientists. The deck was perforated, and even in the sides of the ship, quite near the waterline, gaping holes had appeared. The helmsman was out of action, and the wheel spun as it listed. The ship lurched, drenching us with spray.

"The sea may wash the things off," cried Marjorie, dislodging a bright ring that left a round, red mark on the back of her hand. But it didn't. Every bit of spray that fell on them merely added to their size. It was as if the flying spume froze upon them as it touched.

Only on one spot, we noticed, did these mysterious objects fail to stay and grow. A drum of heavy machine oil, insecurely bunged, had been upset by the sudden lurch of the ship, and had oozed a patch of thick viscidity near the bridge. Every ring that fell upon this patch seemed to die, to disrupt, and float on the oily surface like scum.

"This will keep them off!" I exulted, and dipping my hands in the thick stuff, I anointed Marjorie's face and hands thoroughly, and then my own, finally rubbing my greasy hands over our clothes. One or two others followed our example; but the rings were still falling, still growing.

Even a belated effort by the engineers to bring up the steam hose failed. Some of the rings attached themselves to the grimy men, and some to the hose, eating through it. The jet of steam was quickly cut off, and a man's voice came from below:

"The things have eaten down into the engine-room! We're done!"

CHAPTER II

THE WHITE INVASION

IT SEEMED that the fate of the *Mary Thorne* was to be ours. Sheltering under the bridge, Marjorie and I clasped oily hands, and looked into each other's grimy faces.

"I'm afraid there's no hope," she said. "It is awful to go like this—without even knowing what is really happening. I had planned so much to do with my life . . . and I could have grown very fond of you, Frank. Hold me. . . ."

I kissed her as I held her tight, and in my heart cursed the insensate universe that had brought us together, had kindled the flame of love between us, and was about to destroy us so soon afterwards. We clung together, waiting for the end; and whilst we waited, the crystal rings gathered and grew, piling one upon another even after the downfall had ceased, until the *Erebus III* did indeed begin to resemble a small iceberg, as Arthur Jones had reported of his own vessel.

The uncanny, icy growths rose in clusters and pinnacles, draped over the sides, filled the useless boats. Only where that oily patch darkened the deck-planking was the crystalline covering lacking. Most of the crew were dead, some having jumped overboard rather than wait to be eaten up, and only a few, who had followed our example and dabbled in the oil, remained. Like us, they waited, helplessly, hopelessly, whilst the white-crusted ship drifted slowly in the wind.

The fall of the rings had quite ceased; the sky was clear, and the sea a circle of blue vacancy. How long before the disabled vessel took water through her numerous wounds, and dragged us down into the cold depths? The engines, we knew, were ruined, and useless, the wireless gear destroyed. It was, we thought, merely a matter of time. Already, we fancied, she was settling lower in the water.

But our hour of doom had not yet struck. A trail of smoke appeared to north-eastward, and a welcome ship bore down upon us. She was the cruiser *Caliban*. She had picked up our early S.O.S. messages, and had turned and raced back to our aid.

I won't attempt to picture our relief, our joy. They put out a boat and took us off the encrusted vessel, gave us hot coffee and whisky, made us comfortable. They had seen nothing of the *Mary Thorne*, nor had they been attacked by any of the rings. The captain was undecided whether to leave the *Erebus III* to her fate, or take her in tow to the Cape.

"That crystal stuff ought to be investigated," he said, "and yet, if it is so deadly, we ought not to take it into port."

But the *Erebus III* settled the question for us by sinking lower, putting her nose down, and plunging to her end in the sea. A few clusters of glittering white floated on the waves for a time; then even these dissolved and vanished.

"Well, that's all over," said I. "A sort of freak of nature. We've had a lucky escape, my dear. We're still alive, and you will be able to grow fond of me now."

"We were under a great stress of emotion on that ship, Frank. Don't presume too much on it. After all, how long have we known each other?"

"Nearly a lifetime, wasn't it?" I replied.

IT REALLY seemed as though those two lost ships had been the victims of a queer prank of old Dame Nature, for nothing of the sort befell us on the way home, and no more reports of the phenomenon came in from anywhere. Two clouds of strangely destructive ice-crystals had fallen on two unlucky ships; that was all.

Of course, the events made news, and old Barker was all over me when I got back and turned in my first-hand, eye-witness story. Didn't he splash it over the front page! Both Marjorie and I cashed in, too, with special articles and radio talks. The scientists, meanwhile, wrestled with the problem, evolved wonderful theories, and never came within miles of the ultimate truth. If they could only have seen those rings, kept one for dissection and analysis, they might have gained some light, but they had nothing to work upon.

There were some who even talked of hallucination, and threw doubts on all that we and the crew of the *Caliban* had told. There was only our word; we had brought back no proofs, for in the excitement of our rescue, nobody had thought of taking a photograph of the shining wreck before it sank. I am sure I should have done, and so would Marjorie—had we been alone at the time.

For a month nothing happened to bear out our story, and other items of news quickly pushed it into the limbo of old mysteries. There was a new scare about Japanese designs on Australia, and there Marjorie rushed, leaving me to the humdrum round in South Africa. I heard her voice on the radio, absorbed her smile on the television screen, and groused at Fate.

Then three ships—two tramps and one pleasure yacht—vanished in the South Pacific. No call for help came from either of the two known to possess wireless, and no trace of any of them was ever found.

"Looks to me like more crystals," Marjorie wrote, a few days after the news. "Of course, people here are saying they were sunk by Japs. They have got Japs on the brain; but, personally, I don't believe Nippon means business at present. I am still worried over my hunch about the crystals."

There was more in the letter, of course—much of it, though delightfully vague, very pleasant to read, but of no interest to anybody but myself.

No more news came from Marjorie for a few days, and then came amazing cables from New Zealand. The destroying crystal rings had invaded the South Island in overwhelming numbers, had practically destroyed Invercargill, and were beginning to eat their way into the suburbs of Dunedin. No report of them had come from Stewart Island, nor had they been sighted anywhere else. It appeared that they fell in glittering clouds out of a clear sky, and it was suggested that they travelled in, or were formed in, the lower stratosphere.

Hour by hour came fresh news of the irresistible advance of the mysterious, devastating host. Silent, merciless, unchecked, they pushed their way up along the busy eastern shore, and in less than a week had passed Palmerston, had nearly engulfed Hampden, and were actually seen north of the Waitaki River. Nothing was able to stem their dread progress. Growing and increasing by eating everything upon which they settled, the south-eastern corner of the fair island was rapidly becoming a white waste, a land covered with mounds and pinnacles of glistening crystallisation.

Every settlement was a frozen mass, every town a shining pyramid of death. The population fled to the north before the blight, a stream of scared refugees, having lost their all. Gun-fire had been tried; planes had rained down bombs on the crystal structures; water and chemicals, and even poison gas had been used, but all to no avail. A mass

of the strange growth, temporarily torn to fragments by an explosion, merely settled down and rearranged its scattered parts in symmetrical pyramids. Neither heat nor cold seemed to have any effect upon them.

Stopping short for a time at the Waitaki, the invasion spread westward, capping the lower reaches of the Southern Alps with tips of dazzling white. I was eager to go and investigate, but old Barker, queerly enough, was not agreeable.

"May want you nearer home, my lad," he said. "How do we know these things won't come over here? You stay put!"

THEN I received another letter from Marjorie. She was already in New Zealand—she would be! This is what she wrote:

"Dear Frank.—As, of course, you will have expected, I am here, right in the thick of things. Was my hunch right, or wasn't it? The reality of the situation is far worse than you would gather from the scrappy reports. It is staggeringly unbelievable, yet fearfully true.

"We are being invaded by a flood of extraordinary crystallisation. There seems to be no way of checking its destructive advance. Where is it coming from? Either from the stratosphere, from the Antarctic Continent, or from another world. The Antarctic is *my* guess; and I am writing this to tell you of my own particular peril and escape.

"Oh, yes; I've nearly been a casualty! It is a wonder, really, that I'm still alive. I contacted the fringe of the invasion at Hampden; had only just got there and booked a room at the best hotel, somewhere round about eight p.m., when the whole place went haywire. The crystal rings were falling not half a mile away. Panic? I've never seen anything so bad. People who would be brave and calm, in face of a human foe, simply collapsed with fright or ran headlong from this inhuman, mysterious menace.

"I don't blame them, either. I did not feel very valiant myself; but I set my teeth, grabbed my camera and rushed out towards the trouble. I had literally to fight my way through a shouting, screaming mob of citizens. The police and military were helpless. Some of them tried to stop me, to turn me back, but I managed to squirm through and reach the last house to south of the town, a wooden frame bungalow occupied by a Scotsman. More of him presently!

"The air was thick with the drifting crystal rings. It was like the scene on the *Erebus III* again. Quite unthinkingly, I rushed under the veranda of the solitary bungalow for shelter, forgetting how useless any sort of building would be when the crystals began to eat their way through the roof. I did just notice that the woodwork glistened oddly in the dim light, and that the door-handle felt sticky when I grasped it. Then the door gave way suddenly, and a hand came out and yanked me inside.

"'Come in, leddy,' said a gruff, kindly voice. 'It's no place for any human body oot there the noo.'

"'Thanks!' I gasped; and then I realised the danger. 'But it's no use. The rings will eat their way in. I was a fool to come down here. You mustn't stay. We must get out and run for our lives!'

"'Bide a wee while, leddy,' the man answered, his back to the door. 'Ye are safe enough here, Miss Lennard. I kenned your name directly I clapped eyes on ye. Many's the time I've seen your bonny face in the papers.'

"'But the crystals?' I cried, getting panicky. 'They will be in upon us soon!'

"'That they will not, lass! Are ye forgettin' how ye saved yoursel' on the *Erebus* boat? Surely ye remember the

oil? Didna ye notice I'd daubed all the hoose wi' the stuff? We're safe and snug here till the things pass on; then we can go out and have a guid look at them. That's what I am here for, Miss Lennard—study. Angus Macfairson is the name; mebbe ye've heard of it?'

"Yes, Frank: Angus Macfairson it was. Naturalist, student of magnetism, and one of the keenest brains down under.

" 'Thank goodness for that!' I told him. 'I must have been stupid, Mr. Macfairson, not to have seen the grease, and not to have thought of using it myself. Nobody else seems to have remembered it, either.'

" 'Or if they have, they've just put off takin' precautions until too late. But we are safe enough here for the time bein', and I hae no doot ye'll help me to investigate? If we are to fight these things, we must find out all we can aboot them. I'm living alone here, but ye will not be scairt of an auld scientific man, eh, lass?'

"There was a merry twinkle in his blue eyes, and we both laughed. No need for you to feel any pangs of jealousy, Frank!

"WE WAITED, very comfortably, for about an hour, listening to the dying uproar from the evacuated town, and the *plop, plop* of the rings upon the oily roof.

" 'I ken what ye will be thinking the noo,' observed Angus, handing me a nice cup of tea. 'If I can keep safe here, under the oil, why canna everybody else? Now, where's the sense of that? Think of the tons of stuff would be needed to cover every hoose and everybody even in a wee village; and how long would it need to be kept fresh, to be renewed? We dinna ken when or where the next attack may materialise, and ye couldna keep a whole country and its population permanently smothered in oil just in case of invasion.

" 'I reckoned that I was in the line of probable advance, and took a chance, but it might hae been wasted work. Nay, Miss Lennard; there's no stopping this business at present—no guarding against it.'

" 'Then what?' I asked. 'How can you study them?'

" 'As soon as the downfall ceases, we can go out and examine the formation,' he replied, solemnly. 'There will be great masses of the stuff, and I hae the ideas of a few wee tests in my head the noo. We *must* know more aboot the things. At present, they are inexplicable; but they must be, in some sort of fashion, *alive*. I hae thought that frae the first.'

" 'My hunch!' I chortled. 'I've felt there was something uncanny, something more than mere material, about them. Yet how can they be alive? From what I have seen of them, they are purely crystalline, the rings being formed of a large number of starry rays joined at a common centre. Then they grow upon what they touch, especially anything metallic. They are certainly not any sort of protoplasm, which is supposed to be the only basis of life.'

" 'Ye speak like a modern young leddy, Miss Lennard,' said Angus. 'A pleasure it is to hae met ye. But are we certain that there canna be life withoot protoplasm, withoot the verra complex carbon atom? The Universe is ower big and queer, and life may manifest itsel' in ither ways. Why shouldn't it originate in silicon, barium, iron, or in some hitherto unknown complexity of crystalline grouping? We dinna ken —but we can try and find oot!'

" 'If they are alive,' said I, 'there must be millions of the creatures. How do they communicate, work together, and so on?'

" 'Millions, lass? Ay, and perhaps not. Perhaps, *only one!*'

" 'One?' I didn't get his meaning.

" 'Supposing,' he went on, 'that all this crystallisation is just *one* being; one living being, wi' lots of quite

separate parts. Ye will hae read Maeterlinck's *Life of the Bee,* nae doot? He suggests that the individual insects are no separate entities, but merely fragments of the swarm, and the swarm—the hive—is the real individual. "The Spirit of the Hive," he calls it. It's awfu' difficult to put into words, but he means that the bees are just the material particles of the Hive Soul, and are kept together, and work in unison, by the invisible bonds of psychic force.'

" 'But,' I objected, 'the bees are not connected to the swarm as the parts of an organism are connected. They fly about; there is a lot of space between them.'

" 'Miss Lennard, ye are forgetting what ye have learned. All the particles of our bodies, the molecules and atoms, are also separated by empty space, and must be held together and controlled by some sort of spiritual, immaterial bond. Even the particles of a solid lump of granite are only tiny, separate specks floating in emptiness. Now d'ye ken? This crystallisation may well be just one individual.'

"Well, that's Macfairson's idea, Frank. I don't know what to think. Perhaps he will be able to get some evidence for his theory when we investigate. The rain of falling rings has now ceased, and I must find some way of sending off this letter by air mail from farther north: I can't think that everybody in Hampden will be wiped out. I want to stay here for a while and watch Mr. Macfairson at work. Perhaps old Barker may have sent you off already?—Yours affectionately, Marjorie."

CHAPTER III

THE BLIGHT SPREADS

THAT decided me. I wasn't going to let any News Editor keep me at home any longer. I burst into the sanctum and announced that I was quitting for the scene of action at once, and I'd like to see anybody stop me."

"O.K., Waterson," Barker snapped. "Hop it! But if you can't come back with the goods, don't come back at all!"

So I jumped the next trans-ocean flyer to Christchurch, N.Z., little knowing that I was leaving another scene of action, and that I should never see old Barker again.

Owing to a recent speeding-up of long-distance air travel, it was less than a two days' hop across to New Zealand. But we had not been going six hours, when the ship's radio startled us with the news that the crystals had arrived at the Cape. Simon's Town had already been destroyed, Table Mountain had become a gigantic iceberg, and the white flood was surging inland.

Soon after, the radio from Cape Town was abruptly cut off, but news and television then came from Johannesburg. The crystals were advancing with amazing speed, absorbing everything in their path. South Africa was terror-stricken, and Briton, Boer, Kaffir and Hottentot were trekking madly across and beyond the Orange River.

The virtue of heavy oil had been remembered, and many people had saved themselves and their homes—only to find themselves left behind, marooned, human derelicts in a white wilderness of desolation. Railways, telegraph and telephone wires, were destroyed; crops were ruined, livestock killed. Aerial attacks on the invader, here as in New Zealand, proved futile, and scores of planes were brought down in fragments. Pilots, leaping out in parachutes, found their gear perforated and were hurled to death. And the flood rolled on. . . .

"You've seen those things at close quarters, I hear," said one of the passengers to me. "What on earth are they? If they go on like this, they'll sweep us off the Earth!"

"There are any amount of theories," I replied. "You know as much as I do. They may be alive, somehow, and hostile to humanity. As far as I can see, there's only one way to fight them, and that's a forlorn hope: to cover every person, every building and every mile of ground with heavy oil—and keep them covered!"

"A case of God help us, then," one man growled.

"There's still Science," I remarked. "We mustn't give up yet."

The bad news rolled in all the way along, and when I stepped out at the airport, I knew that South Africa was lost to humanity right up to the twenty-eighth parallel of latitude. Kimberley had been overwhelmed, and Johannesberg was preparing for a fight. Great wide, shallow trenches had been dug in the path of the advance, and these were filled with thick oil. Many buildings, and all the head workings of the Rand mines, were also protected by grease. Everything that artillery and aircraft could do, would be done.

At that moment, the New Zealand flood had only reached Timaru, on Canterbury Bight, but from behind the line of its advance, eerie and fearful stories were brought by the few survivors who had worked their way northward. The south had become a white wilderness, devoid of animal life. The crystal mounds that had been houses and towns had somehow spread out, covering the ground with a mantle of silent coruscation.

It was up to me to find out all I could, to know the best—or the worst. Marjorie had sent off her letter somehow, but I could get no fresh news of her, nor of Angus Macfairson. When I tried to hire a plane to go and see, I was met everywhere with ridicule or blank refusal. The Government definitely declined to let a State machine be used, and every civil airline company flatly turned me down. But at last I found a pilot, with a rather old Megane mono, who seemed less scared, more inclined to let money talk.

"Mind you, feller," he said, after we had settled the price—a stiff one—"I'm not going to land you in that white desert. It would be suicide for me and the bus; but I'll risk flipping over to get a look at Hampden, just to satisfy you. Skirt in it, I expect, eh?"

"You've said it!" I told him. "Just a girl and an old Scotsman—but the girl means more to me than anything else in the world."

The pilot grunted sympathetically. "Sorry it's that way, feller. Afraid you're on a sad errand, but I'll take you to glimpse the spot. And mind you—at the first hint of trouble, I'll be tailing back home like hell!"

I pretended to be content, and we started, leaving the little crowd at the air-field shaking their heads at our madness.

ON THE old Megane, it was over an hour's hop. What a landscape it was we passed. White, glittering white, everywhere; every prominence gleaming like an icy hillock. Not a tree, not a bush, not a living thing to be seen. Not a sound, not a movement, except occasional gleams of iridescence as the morning sun shone on shifting lines of crystallisation. It was as though the crystals were not only covering the ground, adhering to it, but becoming part and parcel of the very earth.

To the south, near to the white pinnacles of what had once been Palmerston, there was greater activity. A large, circular dome of glistening white, covering a mile or more of ground, appeared to be in some kind of slow motion, as though revolving upon itself. We both remarked upon this; and then the pilot put into words what I had been vaguely conscious of for some time.

"Say, young feller, don't you feel kinda uneasy? Don't know what to make of it, nohow, but there's a sort of oppressiveness in the air. It feels like somebody was hating me, good and hard. Damned queer. Ain't you noticed nothin'?"

I had noticed something. It was like —well, the nearest I can get to describing it is this: it was like being in the witness-box and being browbeaten by a hostile counsel. I was in such a spot once, and I know. Only it was a lot worse than that; more subtle. It was a surge of psychic animosity directed at us from somewhere, from *somebody*.

But just then I sighted a frame bungalow, with a cleared space round it—the only building visible in the whole expanse. Macfairson's house. It was still there. Focusing my binoculars down on it, I thought I saw a faint wisp of smoke from the chimney.

"They're alive yet!" I shouted. "Put me down as close as you can get to the house."

The pilot grinned back at me ferociously. "Not on your life, feller! I'm not going down there. Drop 'em a message and a bag of grub, if you like, but that's all."

It was no time for half-measures. I lugged out my automatic and jammed the muzzle into his ribs.

"Put her down, pronto, and no nonsense!" I ordered. "Put her down, or this thing will go off!"

"Bluff, mister, just bluff," he laughed. "You daren't pull that trigger!"

I bored the gun harder into him. "By God, I will!" I cried. "I mean it! Get down!"

He sensed that I meant business; his jaw dropped. "Lot of good killing me," he objected. "We'd crash."

"Oh, no, we shouldn't," I assured him. "I could handle the ship. Had lessons—done a lot of solo gliding on the Drakensberg. Come on! You have a chance to live if you go down, but if you don't, you're going *out!*"

"All right; you win, bully," he growled, and gave us a beautifully smooth landing. The undercarriage wheels made deep ruts in the crystal growth as we taxied across to the level, oil-soaked patch near the veranda of the bungalow.

The door was flung open, and Marjorie and a grey-haired old man rushed out to meet me as I stepped out of the plane. I turned round to introduce the pilot, just in time to see the cabin door clanged shut and the propeller begin to revolve. We had barely time to step aside and save ourselves, as the machine swerved on the smooth oil, gained the crystal-covered ground and zoomed up and away, circling round and heading back north.

The scared pilot had left us: he was taking no chances.

A number of the crystal rings came floating and rolling down upon us. Marjorie pulled me inside, and Macfairson slammed the heavy door.

"Ye aren't safe out there till ye're well oiled, Mr. Waterson," said the Scot. "Not meanin' what is generally meant by that! Ye see, I ken fine who ye are. Yon aviator was awfu' scairt—how did ye persuade him to drop ye at all?"

"With this little chap," I said, putting the gun back in my pocket. "And it wasn't loaded, either! Well, now that I've found you, how have you managed to hold the fort?"

"MR. MACFAIRSON has been wonderful, Frank," said Marjorie, clinging to my arm, almost sobbing with relief, her eyes saying things to me in a way that meant more than words. "I was glad I came, at first, but things are getting difficult. Our radio gave out soon after I arrived, and we have had no outside news. I gave your letter to the last straggler who passed, but he looked so

dead beat that I never expected he would get to the next town.

"I thought we were abandoned to our fate, as no ship came down the coast and no plane appeared. But when that pilot gets back and reports, some effort will surely be made to reach us. How far have the crystals got now?"

"They are threatening Christchurch itself," I said. "Worse still, they are in South Africa, beyond Kimberley. The very last news we picked up on the flight was that another invasion had begun near Cape Horn. A ship passing through Magellan Straits reported a cloud of strange white objects passing northward, but was not itself attacked."

"Mon," said Macfairson, "that settles it! D'ye see? I was right frae the first, Marjorie. These wee things all come fra' the south. They are spreading north the noo, up three land-masses. They all come frae the Antarctic, *and they're alive!* Look at yon great white dome oot there, twistin' and turnin' on itsel'—that's the centre, the heart, the brain of the awfu' Thing. It wasna there yesterday."

"I believe Mr. Macfairson is right," nodded Marjorie.

"You tell me, then, how you figure it out. I'm completely stumped to account for it all!"

"It is, we believe, like this," Marjorie explained. "In the vast waste spaces of the Antarctic Continent, where there are thousands of square miles of territory no human eyes have ever looked upon, crystallisation, freezing of ice and snow, has been going on for millions of years; and quite recently, a crystal variation, a freak of nature, has arisen out of the many shapes and combinations.

"It is a sort of ultra-magnetic crystal, capable of reproducing itself, of absorbing almost any kind of material, and growing rapidly. It has, in some strange way, become *aware* of itself, achieved a sort of consciousness without any special organs of sense. It is, in fact, what we have always thought impossible, life without carbon as an essential; life utterly different from, and alien to, protoplasmic life.

"We have watched these rings, seen them dissolve in the oil, captured them, and proved their magnetic properties. Look at this compass. The needle no longer points due south, but west, in the direction of the white dome."

"Sounds crazy to me," I responded. "How can this stuff be alive? How can it reason, keep in touch with itself, here, and in Africa and America?"

"It's crazy enough, laddie, to our way of thinkin', but Marjorie has put it into the right words. We ken verra well that protoplasm is just an odd combination of carbon and a few other atoms in the primal seas; this thing is just an odd combination of crystalline forces, and once begun, it has grown."

"Still I don't see where consciousness comes in," I objected.

"What do we know of consciousness, Frank?" asked Marjorie. "There may be many possible forms. We think that this crystal life is, in some mysterious way, quite aware of itself, of the world, and of us, and that its sole aim is growth, growth, and yet more growth. It is trying to cover the whole Earth in a mantle of crystallisation. Apparently it cannot make use of the sea, though it can destroy our vessels.

"We have felt the force of its inarticulate desire impinging upon our minds, the force of its insatiable appetite; we have realised that it has, somehow, sensed our resistance and is hostile to us. Haven't you felt this wave of unseen force beating on your brain already?"

"By Heaven, yes!" I had to admit. "Even that scallywag of a pilot mentioned it. Still, how does this central dome, or whatever it is, keep in touch with all its parts?"

"Sort of magnetic radio," Macfairson rejoined. "Every one of the rings has a centre which responds to etheric vibration. The great heart, or

brain, of the one big individual has only to think, to wish, and every separate part of itself, wherever it may be, acts obediently. I ken it sounds awfu' complex, but it is the only explanation that fits the facts. A Crystal Being has come into existence, and if we canna destroy it, it will possess the world and destroy us!"

"And have we any chance of destroying it?"

The Scotsman blinked behind his glasses.

"I'm no sayin' yet, Mr. Waterson. But me and the braw lassie hae done a lot of experimentin' and thinkin', and we hae hopes—ay, we hae hopes!"

CHAPTER IV

THE WORLD'S FEAR

BEFORE I could press for further information, Marjorie insisted that we sat down to a meal.

"We are not short of food yet, thank goodness, and the artesian well supplies all the water we need," she told me, at the table. "Mr. Macfairson must have acted very promptly when he heard of the appearance of the rings, for the house is stocked like a fortress."

"Ay, and a fortress it is, lassie!"

"We have nearly everything we want, except radio and television, which of course was cut off when the Hampden sub-station of the grid system was eaten up," Marjorie continued. "It is a strange experience for a modern to be isolated, cut off from the world, like this. We have kept the enemy at bay with regular doses of oil on the house, ourselves, and the clearing, but we cannot last out indefinitely. We need to use the oil frequently, or it dries and thickens, and then offers less resistance.

"Remember, Frank, you must never go out of doors unless you have been well and truly anointed. What a fright *I* must look. But you have seen me before as a greasy object, haven't you?"

"Was that the time you kissed my dirty face, dear?" I asked.

"Now, now, my bonny bairns,' Macfairson broke in, "I'm no sorry ye two are that way, but business before pleasure! When we get out of here, 'twill be the time for spoonin'."

"When? Not if?" said Marjorie with a sigh.

"If, then. And now, Mr. Waterson, how do *you* think we can fight this crystal creature? Come, now!"

"Well," I began, "as far as I can see, there are only two ways that offer any chance of success—always granting that this white dome, this 'brain' you speak of, is really the controlling centre of it all. One way would be to drop tons of high explosive on it; the other would be to deluge it with tons of heavy oil."

Marjorie smiled ruefully. "No use, Frank. Even if sufficient planes could be brought here, they couldn't carry enough oil to swamp that vast circle; nor could high explosives destroy it. In fact, from what we have heard, bombs merely scatter the stuff, which immediately reassembles itself.

"No material onslaught can destroy the invisible etheric bond that unites the parts of this crystal being. Any organised attack by air would be met by clouds of destroying rings. We have seen the complete annihilation of one squadron which the N.Z. Government sent down here. They never got a bomb on the dome, and every plane was brought to ground a riddled wreck!"

"Puir bodies," said Macfairson. "We tried to rescue them, but they were eaten up before we could reach them."

"So then, what?" I asked. "What *can* we do? What are those hopes you spoke of?"

"I said we *had* hopes, Mr. Waterson. I'm no' so sure we can do anything the noo. If yon pilot doesna send help, I'm afraid we are done.

"Mon, I've actually tapped the wave-length of the magnetic crystallisation. I hae got a wee oscillator here, and I can sort of surge the vibrations to and fro until it disorganises the cohesion of the things, and if kept on long enough, destroys the crystallisation completely. I hae proved it on some of the wee rings, shatterin' them to fragments. We thought we could hae got word to the authorities, and been able to set up a big magnetic oscillating plant, wi' a force and range enough to destroy yon dome. Let that be destroyed, and all the wee bits o' the stuff elsewhere will slump and dissolve.

"But look, mon, how we are fixed—wi' no means of transport, no means of transmittin' our plans or requirements, and the crystal flood sweepin' on! When ye came, Mr. Waterson, I hoped we had a chance to get help. But unless that white-livered aviator reports that we are here alive, and somebody has guts enough to try and reach us, we canna do much. We canna last out verra much longer; and besides——"

"And besides," finished Marjorie, "it is coming nearer."

"IT? WHAT?" I asked; though, following her gaze through the window, I grasped her meaning even as I spoke.

"It—the Crystal Dome, the brain-centre, Frank. It is continually twisting and turning, and every little movement brings it a shade nearer this way. I am afraid our protective grease will not save us if it should overwhelm the house."

"And worse still, lassie," Macfairson added, "I'm no' so sure the Thing won't somehow manage to counteract the oil, in time. It is working to that end, the noo. It is beatin' on my brain, batterin' my very soul, sayin', without words: *'I'm comin'; I'm comin'! I'm growin', growin', growin'! I'm unconquerable!'* Dinna ye feel the oppression increasin'?"

I did, but as yet not so badly as these two who had lived near it, and whose brains had been bombarded with that inarticulate enmity for days and nights.

"Then what can we *do?*" I asked. "Hadn't we better trek? Beter get out, and try and make our way north? I don't fancy waiting here."

Marjorie shook her head. "No use running away, Frank. We thought of it, once, but we saw what happened to a Maori who got as far as here alone. Didn't you notice the rings that came out to attack your plane? If the pilot had left it for ten minutes, it would have been destroyed. His action looked cowardly, but it was plain horse sense. We couldn't get far."

"There's nothing we can do but wait and hope, Mr. Waterson," said Angus. "Even if there were no danger frae the enemy yonder, we couldna walk a hundred miles carryin' our food—if the enemy hasna gone a lot farther north than that. And the sea is nae guid—not a ship, not a wee boat left along the shore. We maun wait and trust to that pilot's report, hopin' somebody will try to rescue us.

"That is, if they get here in time. Yon devil is creepin' nearer. He's growin' confident! Canna ye sense his challenge, his boastin'?"

The strain was wearing Angus Macfairson down. "And to think," he went on, bitterly, "that I could kill that devil from here the noo, if I had a big enough oscillator instead of a wee apparatus, instead of a wee bit magnetism that could only do the trick if it could be put in the verra centre o' that dome! If! If! But we maun wait; we canna help oursel's."

"I'm sorry I wrote and brought you here, Frank," said Marjorie. Bravely as she was holding up, there were tears in her eyes. "You, at least, might be safe now."

"We can only die once, my dear," I answered. "At least, we are together. Besides, if I had stayed at home, I

should probably have been wiped out along with old Barker and the others. We mustn't give up. In spite of past failures, they may try and send help by sea."

SO WE waited, while our food stock diminished, while the great white dome crept nearer, and its silent hatred battered upon our brains.

How were we to know that help would never come?—that the pilot had returned to the air-field, using up all his petrol, and there, with hundreds more unfortunates, had been overcome and obliterated by the crystal flood within a few minutes of landing?

We couldn't know that; nor could we know how the crystal flood was spreading everywhere, sweeping humanity before it with resistless force. We didn't know—and it was just as well, for perhaps our ignorance preserved our sanity—that the white invasion had passed Christchurch, spread over the fertile Canterbury plains, had reached Cook Strait, and had been seen on the hills near Wellington.

We did not know that in Africa the flood had rolled over Johannesburg, and was eating its way into the interior. Neither heat nor cold, sun nor rain, nor any weapon or device of man, could arrest the progress of the dread, silent invader. Every crystal that floated and settled grew with what it rested upon, multiplied, and drove on in great clouds —clouds that moved and worked by a common impulse.

We did not know that large areas of South America were already lost to man, and that only the thick, humid jungles of the Amazon had caused any halt in the enemy's triumphal march. We did not know that, all round the coasts of the conquered lands, shipping of all sorts was sought out and destroyed. We did not know that the advance guard of the crystal army had crossed the Equator, had been observed on the Atlas Mountains, and even on the Moroccan coast.

We did not know that the whole world was stricken with deadly fear; that with the terrible realisation that nothing could be done to check the enemy, civilisation was near to cracking up; that the floods of refugees from the Southern Hemisphere were beginning to break down the barriers of law, custom and order, to dislocate trade and spread panic everywhere. How long, people asked themselves, before the strange, unaccountable plague reached Europe and North America, decimated those centres of the world's best life, and finally swept mankind out of existence? How long before the Earth became merely a silent globe, encrusted with crystallisation?

Fortunately, though we wondered and feared, we did not know all this; did not know how near humanity was to utter disaster. Beleaguered in our wooden fortress, we could only wait and hope—hope and wait . . .

CHAPTER V

THE BATTLE WITH THE DOME

MATTERS reached a climax when I had been at the bungalow ten days. An extra mouth to feed had made an inroad into our stores, and our stock of oil was getting perilously low. We were all in poor health, from long confinement indoors —except for rare and hasty exercises in the open—and we were all suffering acutely from that accursed psychic surge of hate that was forever beating upon our tired brains.

Angus, we saw, was rapidly approaching the end of his tether. He experimented daily with his magnetic apparatus, breaking up such of the rings as came within the radius of its influence, and causing visible activity in the white dome itself. This shivered, revolved, and came slowly but steadily

nearer. Its foremost fingers touched the edges of our patch of greasy ground, recoiled, and then, as if whipped to fury, advanced once more. And this time, *it swept the thin film of oil away from its path.*

"It's what I hae feared!" cried Macfairson, his cracked voice almost a shriek. "The awfu' Thing is findin' out how to overcome the oil. It will sweep over us, overwhelm us, unless——"

"Unless what?" asked Marjorie, trying to keep calm.

"Unless, my lass, I do what I ought to hae done some time agone. Only I was scairt—me, Angus Macfairson, scairt oot o' my poor wits! But I'll hae to do it, to risk it. 'Tis our only hope."

"What on Earth are you talking about?" I said, sternly. The sternness helped me to keep a grip on myself.

"I'm talkin' aboot what I'll hae to do the noo—and what I ought to hae tried earlier," he resumed. "After all, it will only be a trial, and if I fail we'll be no worse off."

"Get down to brass tacks!" I cried, rather roughly. "If there's any hope, let us know it."

He went into his bedroom and brought out his oscillator, setting it on the table. It was a fairly large box, with a turning-handle on the top between the carrying-handles.

"I hae worked on this every day," he said. "It's an auld idea of mine brought up to date, and it's as near pairfect as I can mak' it wi' the wee power in the electric discharger. It has a range of magnetic disturbance, on the same vibration rate of yon dome, that extends for nearly a mile—that is, in a circle of half-a-mile radius. Ye hae seen how it upsets the wee rings. Well, I maun tak' this box o' tricks right into the middle of that devil dome, and do my oscillatin' there, right in the verra centre of its brain. It will, unless I hae calculated wrong, break doon the crystal cohesion, paralyse all its activity, and break off its control of the distant parts."

"WOULD it really do that?" Marjorie cried.

"Ay, I hae no doot, lass. Magnetism is a fey, funny thing, ye ken. Look how sunspots, ninety odd million miles away in the Sun, upset our instruments on Earth. Yon crystal life hangs on verra slender threads of psychic vibration. Oh, ay, it will worrk, if I can get to the centre *and live long enough to worrk it.* I'll hae to try the noo, anyway. I'm awfu' regretful I didna try earlier."

"But you couldn't get into the middle of that Thing alive!" I objected, horrified. "You would be smothered, eaten up, directly you started!"

"Surely not, if I'm thoroughly greased, and wear a suit saturated in oil, laddie! Granted, the Thing would tear at me, brush off the oil eventually; but I reckon I should last long enough to finish the business."

We were dumb for a few moments; aghast at the daring of the plan, and the stark courage of the man who had been rating himself for a coward.

"We can't let him do this, Frank!" Marjorie burst out at last. "It would be letting him go to his death! We can't; we can't!"

"Of course not," I agreed. "If this thing will do what he claims, I'm the one to take the risk."

Marjorie clung to me frantically. "I can't let you go either, Frank. We don't know for certain that the thing would work. You mustn't go!"

"Dinna fash yersel', lassie," said Angus, drawing himself up, the light of determination in his blue eyes. "I'll no' let him go. He wouldna ken how to worrk the oscillator, and I'll no' teach him. Besides, he's young, and you love him. Ye two hae life before ye, and I'm gettin' an auld man. The world will be

in a sair pickle, even if I conquer yon Thing, and it will need all the youth and strength it can get. Nay, I maun go and do my wee bit the best way I can. I'm really auld and tired."

"We *can't* let him go, Frank," Marjorie repeated.

"Let's hae done wi' talkin', lass," he said. "I maun be well greased the noo, and I hae had a suit soaking in oil for a couple days. I couldna let either of ye go—ye wouldna ken just what to do. It's no verra heroic of auld Angus, anyway. We would all be lost, if I didna try."

So, reluctantly, we helped Angus Macfairson to prepare himself, and let him go out on the desperate sally. We felt ourselves cowardly poltroons, and yet, sentimentality apart, we did right. His reasoning was sound: it was the only way.

We opened the door, and carrying the box in his left hand, the brave old man stepped out on the veranda. He shook my hand with a surprisingly firm grip, and then Marjorie threw her arms round him and kissed him again and again.

"It's a braw lassie ye are, Marjorie Lennard," he said, hugging her closely a moment. "Look after her well, Mr. Waterson; ye've won a prize. And now for the end o' yon evil Thing!"

HE RELEASED Marjorie's arms, pushed me back when I would have stopped him at the last minute, and walked, firmly and erect, towards the great, white dome. Standing hand in hand in the porch, in silence we watched him go. He reached the end of the oily ground, and stepped on to the carpet of crystallisation, plunging through it as one walks through a fall of snow.

Already a number of rings were detached from the dome and were falling upon him, but they could not get any hold. The Crystal Being, devoid of eyes or ears or any organs of sense, was yet in some way aware of his approach, knew him for an enemy. He stepped forward quickly, and plunging into the mass of the dome itself, strode resolutely on as through a gigantic snowdrift. He penetrated farther and farther, until we had to watch through our binoculars, and presently he was lost to sight altogether.

There was a whirling, writhing disturbance near the centre of the huge mound, and that was all. Angus Macfairson had gone.

We waited, looking, listening, hoping, fearing, for what seemed hours, the silent enmity of that evil thing beating remorsely upon our minds. And then, with the suddenness of a lightning flash, that psychic battering ceased. We felt free, relieved, as though a heavy weight had been lifted from our heads. At the same instant, the few rings that were floating in the air fell fluttering aimlessly to earth; the whole expanse of ground, as far as we could see, seemed to be in a quiver of dissolution; the dome lost its smooth roundness and became a shapeless heap of matter, its whiteness already stained with dark and dingy spots and patches.

It was a miracle—an incredible miracle! Angus Macfairson had shattered the cohesion of the Great Crystal, cut off its control of its parts, destroyed its brain, and put an end to the peril of its inexplicable existence. We did not doubt, though of course we did not know till later, that everywhere the crystal had gained foothold, it was no longer a danger. The brief outburst of that strange life was done. Humanity was saved.

In our relief and joy, we could have danced and sung, but for the thought of Angus Macfairson out there, lost to sight in the midst of that great mass of dissolving crystallisation. He had saved us; he had saved the world, by taking his own life in his hands.

"On the long roll of Earth's heroes and saviours," said Marjorie, huskily, "his name will be very high."

EPILOGUE

I AM writing this in the window of our home in Auckland, looking out over the island-studded water. After all was over, certain of the powers-that-be suggested that Frank Waterson should write the full story of the Crystal Terror; and, without conceit, I think they were wise. I am busy on it now, and Mrs. Waterson is giving me invaluable help. Marjorie, in fact, maintains that she is doing most of the work.

Our faith in Macfairson proved well founded. Everywhere that it had threatened, the crystal menace had passed. Everywhere, the magnetically-controlled rings had dissolved and perished, leaving vast areas of desolation; but these areas quickly recovered with the returning tide of normal life. The roots and seeds left in the soil began to germinate; the grass grew; insect and bird and animal came back, as Man re-took possession of his old homes. Of course, the Return took time, and there were many troubles and difficulties to be overcome, but once the victory was won, it *was* only a matter of time.

I had only just put the typewriter away, and with Marjorie's arm linked in mine, was heading for the tea-table, when Angus Macfairson strolled in, humming softly, a wicked gleam in his blue eyes, "Comin' Thro' the Rye."

Oh, no: Angus had not perished in his battle with the Crystal Dome. The oil and grease we had lathered him with had kept him safe and sound until his oscillator had done its work, and he staggered out of the disintegrating mess about half an hour after success was won. We stayed on at the bungalow for a couple of days, and were then rescued by a landing party from a vessel sent down the coast from the north.

I dare say that Marjorie and I have a few grey hairs as a legacy of that terrible time we spent in the bungalow, but I do believe Angus Macfairson looks younger and more vigorous every day. Success is a great tonic. He is, of course, world-famous, and pretends not to like it.

"I hope ye won't put too much aboot me in your book," he said. "Just state the verra plain fac's, and nae trimmin's."

"Go on wi' ye! You're just an auld humbug, Angus Macfairson!" laughed Marjorie.

THE COMET DOOM—*continued from page 29*

world as the prize; and on it they had lost, their vast conspiracy smashed, in the end, by Hanley. Hanley, whose human brain, human intelligence and soul had lived on in a body of metal, to shatter the invaders' colossal plan at the last, remorseful moment.

Marlin paddled on, a dull ache filling his heart. Coburn, Hanley—they had died for the world; for him, while he still lived. Yet even now he could give them something, however little, in return: the homage and undying gratitude of a world, when that world learned who had saved it. He could give them that, at least. . . .

That Mile-Wide Swath Of Destruction Through The Grotesque Jungle Of Venus Baffled The Explorers From Earth. . . Until They Saw—

WORLD OF HORROR

By

CLARK ASHTON SMITH

Author of *The Amazing Planet, Marooned in Andromeda, etc.*

I DO not mean to boast when I say that cowardice has never been among my failings. It would be needless to boast, in view of my honourable record as an ether-ace in six interplanetary expeditions. But I tell you that I would not return to Venus for any consideration—not for all the platinum and radium in its mountain-sides, nor all the medicinal saps and pollens and vegetable ambergris of its forests.

There will always be men to imperil their lives and their sanity in the Venusian trading-posts, and fools who will still try to circumnavigate a world of unearthly dangers. But I have done my share, and I know that Venus was not designed for human nerves or human brains. The loathsome, multiform fecundity of its over-heated jungles ought to be enough for anyone —not to mention the way in which so many posts, with their buildings of neo-manganese steel, have been wholly blotted out between the departure of one space-freighter and the arrival of the next.

No; Venus was not meant for man. If you still doubt me, listen to my story. . . .

I was with the first Venusian expedition, under the leadership of Admiral Carfax, in 1977. We were able to make no more than a mere landing, and were then compelled to return Earthwards because of our shortage of oxygen, due to a serious miscalculation regarding our needs. It was unsafe, we found, to breathe the thick, vapour-laden air of

Venus for more than short intervals; and we couldn't afford to make an overdraft on our tanks.

In 1979, we went back, more fully equipped for all contingencies this time, and landed on a high plateau near the equator. This plateau, being comparatively free from the noxious flora and fauna of the abysmal, steaming jungles, was to form the base of our explorations.

I felt signally honoured when Admiral Carfax put me in charge of the planetary coaster, whose various parts had been brought forth from the bowels of the huge ether-ship and fitted together for local use. I, Richard Harmon, was only an engineer, a third assistant pilot of the space-vessel, with no claim whatever to scientific renown; and the four men entrusted to my guidance were all experts of international fame. They were John Ashley, botanist, Aristide Rocher, geologist, Robert Manville, biologist and zoologist, and Hugo Markheim, head of the Interplanetary Survey.

Carfax, and the remaining sixteen of our party, were to stay with the ether-ship till we returned and made our report. We were to follow the equator, landing often for close observations, and make, if feasible, a complete circuit of the planet. In our absence, a second coaster was to be fitted together, in preparation for a longitudinal voyage around the poles.

The coaster was of that type which is now commonly used for flying at all levels within the terrestrial atmosphere. It was made of neonin-tempered aluminium; it was roomy and comfortable, with ports of synthetic crystal tougher than steel, and could be hermetically closed. There were the usual engines, run by explosive atomic power, and a supplementary set of the old electro-solar turbines in case of emergency.

The vessel was fitted with heating and refrigerating systems, and was

Some of the most popular of our stories are those depicting the exploration of other planets, once man has set foot on them. Here we have such a story by an American writer who has gained many admirers for the remarkable atmosphere which he is able to infuse into his tales. In this instance, it is the sweltering world of Venus which is the subject of his imaginings, and there are few who could so graphically convey just how horrific that planet may be, and what utterly alien forms of life may exist there. We hope to publish more of the work of this master of imaginative writing.

armed with electronic machine-guns having a forty-mile range; and we carried for hand-weapons a plentiful supply of infra-red grenades, of heat-tubes and zero-tubes, not knowing what hostile forms of life we might encounter. These weapons were the deadliest ever devised by man; a child could have wiped out whole armies with them. But I could smile, now, at their inadequacy. . . .

The plateau on which we had landed was far up in a range which we named the Purple Mountains, because they were covered from base to summit with enormous two-foot lichens of a rich Tyrian hue. There were similarly covered areas in the plateau, where the soil was too thin for the sustenance of more elaborate plant-forms. Here, among the multitudinous geysers, and the horned, fantastic peaks that were intermittently visible through a steam-charged atmosphere, we had established ourselves in a lichen-field.

Even here, we had to wear our refrigerating-suits and carry oxygen whenever we stepped out of the ether-

ship; otherwise, the heat would have parboiled us in a few minutes, and the ultra-terrestrial gases in the air would have speedily overpowered us. It was a weird business, putting the coaster together under such circumstances. With our huge, inflated suits, and masks of green vitrolium, we must have looked like a crew of demons toiling in the fumes of Gehenna.

I SHALL never forget the hour when the five of us who had been chosen for that first voyage of discovery said good-bye to Admiral Carfax and the others, and stepped into the coaster. Somehow, there was a greater thrill about it than that which attended the beginning of our trip through sidereal space. The 23,000 miles of our proposed circuit would, of course, be a mere bagatelle; but what marvels and prodigies of unimagined life or landscape might we not find! If we had only known the truth! But, indeed, it was fortunate that we could not know. . . .

Flying very slowly, as near to the ground as was practicable, we left the plateau and descended through a long, jungle-invaded pass to the equatorial plains. Sometimes, even when we almost grazed the jungle-tops, we were caught in voluminous, rolling masses of cloud; and sometimes there were spaces where we could see dimly ahead for a few miles, or could even discern the white-hot glaring of the dropsical Sun that hung perpetually at zenith.

We could get only a vague idea of the vegetation beneath us. It was a blurred mass of bluish and whitish greens, of etiolated mauves and saffrons, tinged with jade. But we could see that the growths were of unearthly height and density, and that many of them had the character of calamites and giant grasses, rather than trees. For a long while we sought vainly an open space in which to alight and begin our investigations.

After we had flown on for an hour or two above the serried jungle, we crossed a great river that couldn't have been so very far below the boiling-point, to judge from the columns of steam that coiled upward from it. Here we could measure the height of the jungle, for the shores were lined with titanic reeds, marked off in ten-yard segments, that rose for a hundred yards in air, and were overshadowed by the palm-ferns behind them.

But even here, there was no place for us to descend. We crossed other rivers, some of which would have made the Amazon look like a summer creek; and we must have gone on for another hour above that fuming, everlasting forest ere we came to a clear spot of land.

We wondered about that clearing, even at first sight. It was a winding, mile-wide swath in the jungle, whose end and beginning were both lost in the vapours. The purplish soil seemed to have been freshly cleared, and was clean and smooth, as if a whole legion of steam-rollers had gone over it. We were immensely excited, thinking that it must be the work of intelligent beings —of whom, so far, we had found no slightest trace.

I brought the coaster gently down in the clearing, close to the jungle's edge; and donning our refrigerating-suits and arming ourselves with heat-tubes, we unscrewed the seven-inch crystal of the man-hole, and emerged.

The curiosity we felt concerning that clearing was drowned in our wonder before the bordering forest. I doubt if I can give you any real idea of what it was like. The most exuberant tropical jungle on Earth would have been a corn-patch in comparison. The sheer fertility of it was stupendous, terrifying, horrifying—everything was overgrown, overcrowded, with a fulsome rankness that pushed and swelled and mounted even as you watched it.

Life was everywhere; seething, bursting, pullulating, rotting. I tell

you, we could actually *see* it grow and decay, like a slow moving picture. And the variety of it was a botanist's nightmare. Ashley cursed like a longshoreman when he tried to classify some of the things we found. And Manville had his problems, too, for all sorts of novel insects and animals were flopping, crawling, crashing and flying through the monstrous woods.

I'm almost afraid to describe some of those plants. The overlooming palm-ferns, with their poddy fronds of unwholesome mauve, were bad enough. But the smaller things that grew beneath them, or sprouted from their boles and joints! Half of them were unspeakably parasitic; and many were plainly sarcophagous.

There were bell-shaped flowers, the size of wine-barrels, that dripped a paralysing fluid on anything that passed beneath them; and the carcasses of flying lizards and strange, legless mammals were rotting in a circle about each of them, with the tips of new flowers starting from the putrefaction in which they had been seeded. There were vegetable webs in which squirming things that had been caught—webs that were like a tangle of green, hairy ropes. There were broad, low-lying masses of fungoid white and yellow, that yielded like a bog to suck in the unwary creatures that had trodden upon them. And there were orchids of madly grotesque types that rooted themselves only in the bodies of living animals; so that many of the fauna we saw were adorned with floral parasites.

EVEN though we were all armed with heat-tubes, we didn't care to go very far in those woods. New plants were shooting up all around us; and nearly everything, both animal and vegetable, seemed to have alimentary designs upon us. We had to turn our heat-tubes on the various tendrils and branches that coiled about us, and our suits were heavily dusted with the white pollen of carnivorous flowers—a pollen that was anæsthetic to the helpless monsters on which it fell.

Once, a veritable behemoth, with a dinosaur-like head and forelegs, loomed above us suddenly from the ferns it had trampled down, but fled with screams of deafening thunder when we levelled our heat-rays upon it, till its armoured hide began to sizzle. Long-legged serpents, larger than anacondas, were stalking about; and they were so vicious, and came in such increasing numbers, that we found it hard to discourage them. So, we retreated towards the coaster.

When we came again to the clearing, where the soil had been perfectly bare a few minutes before, we saw that the tips of new trees and plants were already beginning to cover it. At their rate of growth, the coaster would have been lost to sight among them in an hour or two. We had almost forgotten the enigma of that clearing; but now the problem presented itself with renewed force.

"Harmon, that swath must have been made within the last hour!" exclaimed Manville to me, as we climbed back into the vessel behind the others.

"If we follow it," I rejoined, "we'll soon find who, or what, is making it. Are you fellows game for a little side-trip?" I had closed the man-hole, and was now addressing all four of my companions.

There was no demur from anyone, though the following of the swath would mean a diagonal divagation from our set course. All of us were tense with excitement and curiosity. No one could venture a surmise that seemed at all credible, concerning the agency that had left a mile-wide trail, and also we were undecided as to the direction of its progress.

I set the engines running, and with that familiar roar of disintegrating carbon atoms in the cylinders beneath us, we soared to the level of the fern-tops, and I steered the coaster along the swath in the direction towards which its

nose happened to be pointing. However, we soon found that we were on the wrong track; for the new growth below us became disproportionately taller and thicker, as the mighty jungle sought to refill the gap that had been cloven through its centre. So I turned the coaster, and we went back in the opposite direction.

I don't believe we uttered half a dozen words among us, as we followed the swath, and saw the dwindling of the plant-tops below till that bare, purplish soil reappeared. We had no idea what we would find, and we were now too excited even for conjecture. I will readily admit that I, for one, felt a little nervous: the things we had already seen in the forest, together with that formidable recent clearing which no Earthly machinery could have made, were enough to unsettle the equilibrium of the human system.

As I have said before, I am no coward; and I have faced a variety of ultra-terrene perils without flinching. But already I began to suspect that we were among things which no Earth-being was ever meant to face, or even imagine. The hideous fertility of that jungle had almost sickened me. What, then, could be the agency that had cleared the jungle away more cleanly than a harvester running through a grain-field?

I watched the vapour-laden scene ahead in the reflector beside me; and the others all had their faces glued to the crystalline ports. Nothing untoward could be seen as yet; but I began to notice a slight, unaccountable increase of our speed. I had not increased the power—we had been running slowly, at no more than one hundred and fifty miles per hour; and now we were gaining, as if we were borne in the sweep of some tremendous air-current, or the pull of a magnetic force.

The vapours had closed in before us; now they eddied to each side, leaving the landscape visible for many miles. I think we all saw the Thing simultaneously; but no one spoke for a full thirty seconds. Then Manville muttered, very softly: "My God!"

In front, no more than a half-mile distant, the swath was filled from side to side with a moving mass, of livid, angle-worm pink, that rose above the jungle-tops. It was like a sheer cliff before us, as we flew towards it. We could see that it was moving away from us, was creeping onward through the forest. The mass gave the impression of a jelly-fish consistency. It rose and fell, expanding and contracting in a slow, rhythmic manner, with a noticeable deepening of colour at each contraction.

"Life!" murmured Manville. "Life, in an unknown form, on a scale that would not be possible in our world."

THE coaster was now rushing towards the worm-coloured mass at more than two hundred miles an hour. A moment more, and we would have plunged into that palpitating wall. I turned the wheel sharply, and we veered to the left and rose with an odd sluggishness above the jungle, where we could look down. That sluggishness worried me, after our former headlong speed. It was as if we were fighting some new gravitational force, of an unexampled potency.

We all had a feeling of actual nausea, as we gazed down. There were leagues and leagues of that living substance; and the farther end was lost in the fuming vapours. It was moving faster than a man could run, with that horribly regular expansion and contraction, as if it were breathing. There were no visible limbs or appendages, no organs of any distinguishable kind; but we knew that the Thing was alive and aware.

"Fly closer," whispered Manville. Horror and scientific fascination contended in his voice.

I steered diagonally downward, and felt an increase of the strange pull

against which we were fighting. I had to reverse the gears and turn on more power, to prevent the vessel from plunging headlong. We hung above the pink mass at a hundred-yard elevation, and watched it. It flowed beneath us like an unnatural river, in a flat, glistening tide.

"Voyez!" cried Rocher, who preferred to speak in his native tongue, though he knew English as well as any of us.

Two flying monsters, large as pterodactyls, were now circling above the mass not far below us. It seemed as if they, like the vessel, were struggling against a powerful downward attraction. Through the air-tight sound-valves, we could hear the thunderous beating of their immense wings as they strove to rise, and were drawn gradually towards the pink surface.

As they neared it, the mass rose up in a mighty wave, and in the deep, mouth-like hollow that formed at the wave's bottom, a colourless fluid began to exude and collect in a pool. Then the wave curved over, caught the struggling monsters, and lapsed again to a level, slowly palpitating surface above its prey.

We waited a little; and I realised suddenly that the onward flowing of the mass had ceased. Except for that queer throbbing, it was now entirely quiescent. But, somehow, there was a deadly menace in its tranquillity, as if the Thing were watching or meditating. Apparently, it had no eyes, no ears, no sense-organs of any sort; but I began to get the idea that, in some unknowable manner, through senses beyond our apprehension, it was aware of our presence and was considering us attentively.

Now, all at once, I saw that the mass was no longer quiescent. It had begun to rise towards us, very stealthily and gradually, in a pyramidal ridge; and at the ridge's foot, even as before, a clear, transparent pool was gathering.

The coaster wavered, and threatened to fall. The magnetic pull, whatever it was, had grown stronger than ever. I turned on fresh power; we rose with a painful, dragging slowness, and the ridge below shot abruptly into a pillar that loomed beside us and toppled over towards the vessel.

Before it could reach us, Manville had seized the switch that operated one of the machine-guns, had aimed it at the pillar, and released a stream of disintegrative bolts that caused the overhanging menace to vanish like a melting arm of cloud. Below us, the pyramidal base of the truncated pillar writhed and shuddered convulsively, and sank back once more into a level surface.

The coaster soared dizzily, as if freed from a retarding weight; and reaching what I thought would be a safe elevation, we flew along the rim of the mass, in an effort to determine its extent. And as we flew, the Thing began to glide along beneath us, at its former rate of progression.

I don't know how many miles of it there were, winding on through that monstrous jungle like a glacier of angle-worm flesh. I tell you, the Thing made me feel as if my solar plexus had gone wrong. It was all I could do to steer the coaster.

There was neither head nor tail to that damnable mass, and nothing anywhere that we could identify as special organs; it was a weltering sea of life, of protoplasmic cells organised on a scale that staggered all the preconceptions of biology. Manville was nearly out of his senses with excitement; and the rest of us were so profoundly shocked and overwhelmed that we began to wonder if the thing were real, or were merely an hallucination of nerves disordered by novel and terrific planetary forces.

WELL, we came to the end of it at last, where the pink wave was eating its way through the jungle. Everything in its path was

being crushed down and absorbed—the four-hundred-foot ferns, the giant grasses, the grotesque carnivorous plants and their victims, the flying, waddling, creeping and striding monsters of all types. And the Thing made so little sound—there was a low murmur, like that of gently moving water, and the snap or swish of trees as they went down, but nothing more.

"I guess we might as well go on," observed Manville regretfully. "I'd like to analyse a section of that stuff, but we've seen what it can do, and I can't ask you to take any chances with the coaster."

"No," I agreed, "there's nothing to be done about it. So, if you gentlemen are all willing, we might as well resume our course." And I set the vessel back toward the equator, at a goodly speed.

"Christ! That stuff is following us!" cried Manville, a minute later. He had been watching from a rear port. Intent on steering forthrightly, it had not occurred to me to keep an eye on the Thing. Now, I looked into the rear reflector. The pink mass had changed its course, and was crawling along behind us, evidently at an increased rate of progression, for otherwise we would have been out of sight by now.

We all felt pretty creepy, I assure you. But it seemed ridiculous to imagine that the Thing could overtake us. Even at our moderate speed, we were gaining upon it momently; and if need be, we could treble our rate, or soar to higher atmospheric levels. But even at that, the whole business made a very disagreeable impression.

Before long, we plunged into a belt of thick vapours and lost sight of our pursuer. We seemed to be traversing a sort of swamp, for we caught glimpses of titan reeds and mammoth aquatic plants, amid winding stretches of voluminously steaming water. We heard the bellow of unknown leviathans, and saw the dim craning of their hideous heads on interminable necks, as we passed. And once, the coaster was covered with boiling spray from a marsh-geyser or volcano, and we flew blindly till we were out of it again.

Then we crossed a lake of burning oil or mineral pitch, with flames that were half a mile in height; and the temperature rose uncomfortably, in spite of our refrigerating system. Then there were more marshes, involved in rolling steam. And after an hour or two, we emerged from the vapours, and another zone of prodigiously luxuriant jungle began to reveal its fronded tops below us.

Flying over that jungle was like moving in a hashish eternity. There was no end to it, and no change—it simply went on and on, through a world without limits or horizons. And the white, vaporous glare of the swollen Sun, ever at zenith, became a corroding torture to nerves and brain.

We all felt a terrific fatigue, more from the nervous tax than anything else. Manville and Rocher went to sleep, Markheim nodded at his post, and I began to watch for a place where I could bring the coaster safely down and take a nap myself. The vessel would have kept its own course, if I had set the gears; but I didn't want to miss anything, or take any chance of collision with a high mountain-range.

But it seemed there was no place to land in that interminable, bristling wilderness of cyclopean growths. We flew on, and I grew sleepier and sleepier. Then, through the swirling mists ahead, I saw the vague looming of low mountains. There were bare, needle-sharp peaks and long, gentle scaurs of a blackish stone, almost entirely covered with red and yellow lichens, taller than heather. It all looked very peaceful and desolate. I brought the coaster down on a level shelf of one of the scaurs, and fell asleep almost before the heavy thudding of the engines had died.

I DON'T know what it was that awakened me. But I sat up with a start, with a preternaturally distinct awareness that something was wrong. I glanced around at my companions, who were all slumbering quietly, and then I peered into the reflectors, where the entire landscape about us was depicted.

I was unable to believe it, for a moment—that worm-coloured glacier that had crawled up the scarp beneath us, and was now hanging over the vessel like a sheer, immeasurable, flowing precipice. It had reached out in mighty arms on either side, as if to surround us. It seemed to blot out the misty heavens as it hung there, pulsing and darkening, and all a-slaver with rills of a hueless fluid from the mouths that had formed in its front.

I lost a few precious seconds ere I could start the atomic engines; and as the vessel rose, the top of that loathsome cliff lengthened out, and fell over like the crest of a breaking billow. It caught us with a buffeting shock, it enveloped us, we went down tossing and pitching as into a sea-trough; and our interior grew dark and blind till I switched on the lights.

The vessel was now lurching nose-downward, as that unbelievable wave sucked it in. My companions were awake, and I shouted half-incoherent orders to them as I turned on the full power of our cylinders, and also set the electro-solar turbines going. The sides and ceiling of the coaster seemed to bend inward with the pressure, as we sought to wrench ourselves free.

My companions had flown to the machine-guns; they pumped them incessantly, and bolts of electronic force tore like a broadside of lightning into the mass that had engulfed us. We tried literally to blast ourselves out, with each gun revolving at the widest possible radius. I don't know how it was ever done; but at last the pressure above us began to give, there was a glimmering of light through our rear ports, and pitching dizzily, we broke loose.

But even as the light returned, something dripped on my bare arms from the ceiling—a thin rill of water-clear fluid that seared like vitriol, and almost laid me out with the sheer agony as it ate into my flesh. I heard someone scream and fall, and turning my head, saw Manville writhing on the floor beneath a steady drip of the same fluid. The roof and walls of the coaster were rent in several places, and some of the rifts were widening momently. That execrable liquid, which doubtless served as both saliva and digestive juice, had been eating the adamantine-tempered metal like acid, and we had not escaped any too soon.

The next few minutes were worse than a whole herd of nightmares. Even with our double engine-power, even with the machine-guns still tearing at the mass beside us, it was a struggle to get away, to combat the malign extra-gravitational magnetism of that hellish life-substance. And all the while, Venusian air was pouring in through the rents, and our atmosphere was becoming unbreathable. Also, the refrigerating system was half useless now; and we sweltered in a steaming inferno, till each of us donned his air-tight insulative suit in turn, while the others held to the guns and the steering.

Manville had ceased to writhe, and we saw that he was dead. We would not have dared to look at him overlong, even if there had been time; for half his face and body were eaten away by the corroding liquid.

WE SOARED gradually, till we could look down on the horror that had so nearly devoured us. There it was, mile upon mile of it stretching up the mountainside, with the farther end somewhere in the jungle below. It seemed impossible, in view of the distance we had traversed, that the Thing was the same life-mass we

had met earlier in the day. But whatever it was, it must have smelt us out somehow; and seemingly it didn't mind scaling a mountain to get us.

Or perhaps it was in the habit of climbing mountains. Anyway, it was hard to discourage, for our gun-fire seemed to make mere pinholes in it, that closed up again when the gunner's aim shifted. And when we started to drop grenades upon it from our hard-won elevation, it merely throbbed and heaved a little more vehemently, and darkened to a cancerous red, as if it were getting angry. And when we flew off on the way we had come, towards the jungle and the swamp beyond, the damnable Thing started to flow backwards beneath us, along the lichen-mantled slope. Evidently, it was determined to have us.

I reeled in the seat, with the pain of my seared arms, as I held our course. We were in no condition to continue the circuit of Venus, and there was nothing for it but to return to the Purple Mountains. We flew at top speed, but that flowing mass of life—protoplasm, organism, or whatever it was—fairly raced us.

At last we got ahead of it, where it slithered in mile-wide devastation through the jungle—but not very far ahead, at that. It hung on interminably, and we all grew sick with watching it. Then suddenly we saw that the Thing had ceased to follow us, and was veering off at a sharp angle.

"What do you make of that?" cried Markheim.

We were all so amazed by the cessation of pursuit that I halted the vessel, and we hung in mid-air, wondering what had happened. Then we saw. Another endless mass, of a vermin-like grey, was crawling through the jungle to meet the pink mass. The two seemed to rise up in sheer columns, like warring serpents, as they neared each other.

Then they came together; and we could see that they were battling, were devouring each other, were gaining and losing alternately as they flowed back and forth in a huge area from which all vegetation was speedily blotted. At length, the pink mass appeared to have won a decisive victory; it poured on and on, without cease, ingesting the other, driving it back. And we watched no longer, but resumed our flight toward the Purple Mountains.

I have no very distinct recollection of that flight; it is all a blur of incalescent vapours, of boundless, fuming forests, of blazing bitumen lakes and volcano-spouting marshes. I lived in a reeling eternity of pain, sickness, vertigo, and towards the last, a raging delirium in which I was no longer aware of my surroundings, except by fits and starts. I don't know how I held on, how I kept the course: my subliminal mind must have done it, I suppose.

The others were all pretty sick, too, and could not have helped me. I seemed to be fighting an immeasurable, formless monster in that delirium; and after a dozen æons of inconclusive combat, I came out of it long enough to see that the Purple Mountains were jutting their horns from the vapours just ahead. Dimly, I steered along the jungle-taken pass and across the plateau; and the glaring heavens turned to a sea of blackness, a sea that fell and bore me down to oblivion, as I landed the coaster beside the glimmering bulk of the ether-ship.

SOMEHOW, very tortuously and vaguely, I floated out of that sea of blackness. I seemed to take hours in regaining full awareness, and the process was painful and confusing, as if my brain were unwilling to function. When I finally came to myself, I was lying in my bunk on the ether-ship, and Admiral Carfax and the two doctors of the expedition were beside me, together with Markheim and Rocher.

They told me I had been unconscious for fifty hours. My collapse, they

thought, had been partly due to unnatural nerve-strain and shock. But my arms were both in a terrible state, from the ravages of the vitriolic animal fluid that had dripped upon them. It had been necessary to amputate my left arm at the elbow, and only the most skilful care had saved the other from a like fate. My companions, though ill to the point of nausea, had retained consciousness, and had told the story of our unbelievable adventures.

"I can't see how you managed to drive the coaster," said Carfax. This, from our reticent and praise-sparing chief, was an actual brevet.

My right arm was a long time in healing—indeed, it never became quite normal again, never regained the muscular strength and nervous quickness required for aviation or space-flying. And I wasn't so sorry, either: my nerves were badly shaken, and I was content to let others do their share, when the holes in the acid-eaten coaster had been calked with metal melted by our heat-tubes, and another exploring party was sent out along the equator.

We waited for a hundred hours on the plateau in the Purple Mountains; but the coaster didn't return. Radio communication with it had ceased after the first nine hours. The second coaster was put together, and went out with Admiral Carfax himself in charge. Markheim and Rocher also insisted on going along. We kept in touch with the vessel till it began to approach the enormous tundras in which the sunlit hemisphere of Venus terminates, and beyond which are the frozen realms of perpetual twilight and darkness.

The radio reports were full of incredible things, and I won't tell you how many of those moving life-masses were sighted, eating their way through the hideously fertile jungles, or crawling out of the steam-enveloped Venusian seas that gave them birth. Nothing, however, was found of the first coaster. Then the reports ceased, and a black horror settled upon us who had remained in the ether-ship.

The huge space-vessel was ill-adapted to horizontal flight within atmospheric levels. But we set out, anyway, and tried to find the coasters, though we all knew there could no longer be anything to find. I won't detail our trip; we all saw enough to turn our stomachs permanently, and those horrors of immeasurable life were sweet and charming in comparison with some of the things that our searchlights revealed on the dark side of the planet. . . .

Anyhow, we gave it up at last, and came back to Earth. And I, for one, have been well satisfied to remain on terra firma. Others can do the exploring, and work the Venusian mines and plantations. I know too well the fate of those lost parties and their vessels. And I know what has happened to the warehouses of neo-manganese steel that have utterly disappeared, and have been replaced by a half-grown jungle. . . .

THE ISLAND IN THE AIR—*continued from page 66*

The Flight Commander issued swift orders into the radio.

"We'll get him! He can't get far in that plane. He'll be caught in a matter of hours."

But Doctor Gordon Leverett was never caught, and one man, at least, was glad.

"He's got the finest brain in the world, and he's going to use it," said John Lane. "One day, we may hear of him again; but, somehow, I don't think it will be in connection with aerial piracy."

He Thought To Make A Better World By Ridding It Of Dust. . . But Instead It Became A Place Of Darkness And Death

THE MAN WHO STOPPED THE DUST

By JOHN RUSSELL FEARN

Author of *Seeds From Space, Through Earth's Core, etc.*

CHAPTER I

THE VIBRATOR

PROFESSOR BORIS RENHARD was a curious, violently temperamental man. A scientist by profession, and something of an idealist by nature, his main purpose in life was the improvement of mankind's environment, and the obviation of needless work in order to attain a specified object. At thirty, he had been a brilliant inventor; at forty, he had achieved wealth by that very reason; at fifty, his extraordinary powers of perception and conception had become a trifle dulled; and at sixty, as we find him now, his great mind was but a ghost of its former self.

True, it still retained its inventive faculty in some degree, but that careful insight into cause and effect, that wonderful intuitive sense of being able to see the outcome of almost any invention, was entirely missing. And that, perhaps, was why he did not foresee the tragic, unbelievable things that were to result from his curious idea of "stopping the dust."

He had one confidant, the thirty-five-years-old Dr. Anderson, who did his utmost to keep the professor on the path of sane reasoning—a task of formidable proportions when dealing with a temperament so volcanic and didactic as that possessed by Renhard.

It was on a January day of completely unreasonable inclemency when the professor suddenly propounded his latest and most extraordinary theory to his friend.

"Anderson, something has got to be done about all this!" he announced decidedly.

"About what?" Anderson had merely dropped in for one of his weekly chats, which he managed to maintain despite a steadily growing medical practice, and was not feeling par-

ticularly intrigued with the possibility of scientific elucidations of the professor's type at the moment. He was standing by the window, looking out on the dense London murk.

"About *this!*" Renhard said, jabbing a bony index finger at the grey pall.

"Oh, you mean the fog? Well, after all, London expects fogs in January—at any time during the winter, in fact. It's had them for centuries. Caused by the evaporation from the Thames, you know."

"You are telling *me* what causes a fog, John Anderson?" The professor's eyes gleamed indignantly. "Don't I know what *causes* it? What I am going to do is *remedy* it! Science is making great progress in other fields—the bigger, wider fields where my old brain cannot reach; but so mighty are their aims, so celestial their ambitions, they forget the little, everyday inconveniences. I am going to *stop* fog, my young friend; more, I am going to stop all dust!"

There was a faint twinkle in the eyes of Anderson. He laid his hand on the elder man's shoulder.

"You get some queer ideas, don't you, professor?"

"There's nothing queer about stopping dust, is there?"

"Nothing except the fact that you can't do it. It's been tried—fog devourers, air-purifiers, molecular vacuums——"

"Fog devourers—bah!" Renhard snorted, as he snatched up a daily paper from the table. "Look at that!" he commanded.

" 'Four ships lost at sea in the worst fog for years,' " Anderson read aloud. " 'Aeroplanes lose their way and crash despite radio signals.' Well, what about it?" He tossed the paper back on to the table. "It's one of those things that's inevitable—they call it an 'Act of God,' don't they?"

" 'Act of God'?" Renhard groaned and spread his emaciated hands. "I should have thought that a physician with a rising clientele would have had greater breadth of vision, would have been more ready to admit the possibilities of science. Instead, you drivel like a nincompoop about 'Acts of God.' A little while ago, you hinted at the fact that you knew what a fog was. Well, what exactly *is* the process that causes all this inconvenience, and loss of time and life?"

"Why, fog is caused by dust particles, estimated at about 0.001 inch in diameter. The particles may be composed of evaporated ocean spray, disintegrated dust from shooting stars and meteorites, volcanic dust—anything like that. Fog particles are bound to have some kind of dust for their nucleus."

"Beyond question, we are improving," said Renhard sourly. "You admit, freely, that fog is caused by dust particles?"

Who would not approve of the entire removal from our world of such a thing as dust, the enemy of the housewife, upon whom a beneficent science has bestowed the vacuum-cleaner that we might, at least, keep it at bay with a minimum of labour? Would it not be a boon and a blessing if these minute particles of matter which cause us so much trouble could be annihilated for ever? At first, a dustless world would appear most attractive; but the effects of tampering with Nature, in the attempt to improve upon her, can never be anticipated to the full. Even dust has its uses, and how essential is its presence is made abundantly clear in this interesting story.

"Certainly it is. But what of it? You can't stop dust. It is just bound to happen."

"And as long as it happens, life will be endangered," Renhard added grimly. "That isn't right, Anderson. Man has brains enough to overcome such a difficulty, even as he has overcome everything else.

"YOU have, perhaps, heard of the ingenious instrument that contains a pump, a lens, filter papers, and a glass plate divided off into millimetres? Samples of air are sucked into this apparatus, and the number of dust particles determined. In a crowded city there are about 100,000 dust particles to the cubic centimetre, whilst over an ocean the amount is lowered to only 2,000 per cubic centimetre.

"You appear to know three of the operative factors which cause dust—evaporation of ocean spray, disintegrating shooting stars, volcanic dust; and the fourth is the action of wind over the Earth's surface."

"This sounds more like a treatise on the cause of dust, than how to remedy it," Anderson remarked dryly, lighting a cigarette.

"If you will be so good as to give me an opportunity, my dear friend, I will come to my point in due time," Renhard replied acidly.

"Firstly, one must expound the qualities of the particular thing in question, then decide upon the necessary plan to defeat it. We will start again with the phenomenon known as twilight. This happens only because of the refraction of dust particles—the dusty, translucent curtain through which the Sun's rays have to pass.

"Rain-drops and hail-stones all have a particle of dust within them that serves as the original point upon which to condense. Again, when condensation is sufficiently vigorous, the water vapour becomes small globules of water with dust specks as their centre—and so clouds are formed.

"Suppose we take an example of how vital a point is volcanic dust. The eruption of the volcano of Krakatoa in, or near, Java in August, 1883, sent a mass of dust twenty miles into the air! That dust impregnated the whole atmospheric envelope, and took years to descend. That occurrence provided mankind with some of the most glorious sunrises and sunsets in Earthly history. Yet that same dust that can produce such spectacles can also be our deadliest enemy—the destroyer of life and liberty."

"Admitted," Anderson nodded. "And what do you propose to do about it?"

"I am making a machine, Anderson, which will have a 2,000-mile radius of dust elimination when I have completed it. It is what I call a dust vibrator. You admit, of course, that a dust particle is composed of atoms—and that those atoms, when aggregated, create a molecule?"

"True enough."

"We are indeed improving. You admit also that the electron is essential to the structure of an atomic formation—and the atomic formation to the structure of a molecule? Splendid!

"Now, it is conceivable that in time the atoms would lose many of their electrons, owing to the terrific velocity with which the latter move. The disappearance of all electrons would make the weight of the molecule too heavy for the atom to support, and the result would be collapse.

"That occurrence would take a time that I do not wish to compute, for the simple reason that I have evolved a way of destroying all the electrons within the molecules that go to make up a dust particle. The result would be collapse of the molecule—and, incidentally, collapse of the dust particle.

"The electrons can be disrupted—a feat hitherto believed impossible—by vibration; not an actual force, but a shifting plane of disturbances power-

ful enough to destroy them. The result will be complete absence of dust wherever my vibrator gets to work. Think of that!"

"The idea certainly sounds all right," Anderson said slowly. "But how exactly do you propose to go about this disruption of the electrons? You said something about a vibration—but I'm afraid I'm not so well up in such matters."

FOR a space, the professor sat in silence. Then:

"I'll make it as clear as I can to your limited understanding, Anderson. An electron is, of course, pure negative electricity; and electricity, if one gets down to fundamentals, is vibration in a certain form—a vibration of such a periodicity that it becomes light. My vibration will be below that of light. It will be invisible, but tremendously destructive: it will repel and smash an electron completely.

"In the machine I am making, normal electricity is converted into vibration, and when I have finished, the bombardment of electrons will commence—that is, the bombardment of dust electrons."

"I get all that," Anderson said, "but how will you confine your efforts solely to dust? If you disrupt, or 'collapse,' the molecules of dust, I don't see what is to prevent the structure of all matter, since it is all atomic, collapsing. And that would be catastrophe indeed."

"There are molecules of different orders," Renhard explained. "True, certain things might break down as well as dust—and that is why I am going to project my vibration into the sky, where the only damage that can be done is cloud disruption and dust disruption. That will not affect anything on the Earth."

"Correct me if I'm wrong, professor; but once you have started this disruption, there will be nothing to stop it, will there?"

"Yes. I have evolved the cause of disruption, and the cure," Renhard answered. "I have it in my mind what will be necessary to stop the process I create, and thus, when I have seen the effects of dust disruption, I will stop the process spreading farther by setting my subsidiary machine to work. It won't take long to build; anyhow, not long enough for the spreading disruption to do much damage."

Anderson looked his uneasiness. "But surely, professor, would it not be better to build your counter-acter as well, before starting the experiment? To be on the safe side?"

"A needless precaution, Anderson. Besides, I want to be sure that my vibrator works before I go to the expense of building the counter-acter. If the first machine is a failure, there will be no need for the second, will there?"

"Something in that," Anderson confessed. "And if you succeed in stopping the dust, your invention will be worth millions!"

"More important than that," Renhard said slowly, "I shall be a benefactor of mankind. That is what appeals to me most of all."

"That depends on the point of view, of course. Personally, I have always found mankind only too ready to turn on a fellow, if his treasured plans don't quite mature to the expectations of the majority."

Renhard smiled faintly. "I see, Anderson. You are embittered. Because you once made a slip—because the public held you up as a failure in your work, you have never forgotten."

"I can never forget that," Anderson brooded. "I, a surgeon, on my first case—a slip of the knife, and a life was lost. I killed a woman with that slip, professor—a young woman. I lost my position as surgeon, and had to make a fresh start as a physician. Such things are not easy to forget."

"True," Renhard said; "but now let us discuss my plans, if you have the

time to spare? I shall need your help. May I have it?"

"Why, assuredly! Carry on."

IT TOOK Professor Renhard three weeks to purchase and erect his machinery, with the aid of Dr. Anderson; and on the night of February 1st the last bolt had been driven home, and the curious apparatus —a large, complicated mass of machinery—stood before an open window in an empty room at the rear of the professor's Kensington home.

The window commanded a view of London's back streets with their glimmering gas-lights; farther beyond were the hazy uprisings of light that betokened the packed, brilliantly illuminated centres of the Strand, Piccadilly Circus and Trafalgar Square.

Dr. Anderson looked up at the frosty, star-studded sky, and buttoned up his overcoat tightly.

"Everything seems to be in order, Anderson," Renhard remarked presently. "I see no reason why we shouldn't begin the experiment."

Anderson shrugged. "Just as you like," he said. "Give her the juice, and we'll see what happens."

"Right!" Renhard flicked a button on the control panel of his vibrator, and it began to purr very softly as the generator within proceeded to function.

"It works!" Renhard breathed, rubbing his hands in silent glee.

"I don't see anything," Anderson said, frowning.

"Fool! You don't expect to *see* vibration, do you? The negative electrical energy, being transformed into vibration by the machinery inside here—which you know quite as much about as I do, since you helped to assemble it—is even now being hurled forth into the air outside, and is invisibly disrupting the atom-electrons of dust particles, over an area of two thousand miles. Think of that!"

"I *am* thinking of it, but I'd like to see something. Listening to this glorified vacuum-cleaner of yours isn't exciting enough."

"Glorified vacuum-cleaner!" Renhard exploded. "You dare make such a comparison?"

Anderson smiled faintly. "Sorry, Professor; I didn't mean to offend you. But look for yourself! The whole thing's a fizzle! Nothing has happened! It seems that you won't need to build that counter-acter, after all."

The professor moved slowly to the window, taking care to keep well out of the path of his vibration beam, and looked out upon the unchanged view. He bit his lip in vexation.

"Certainly, nothing is different there," he admitted reluctantly. "I wonder if I made a slip somewhere in my calculations? Let's go into the study and work it out again."

"All right," Anderson agreed. "You'll be catching cold in this ice-house if you don't. You always were hopeless at looking after your own comfort. Come on."

CHAPTER II

DEATH INTERVENES

THE professor moved disconsolately to his apparatus, and reversed the switch upon the panel, which should have put the machine completely out of commission. He was not aware, however, that inside the instrument a whisker of wire had worked loose from the contact screw and was causing a "short" across the two terminals. The movement of the switch, therefore, only served to cut the machine's power down; low enough to make its humming imperceptible, but strong enough still to give forth that curious negative vibration to the atoms of dust. . .

Silently, the two men passed into the study, lighted cigars and sat down. Then the professor brought his fist down on the table with a resounding thump.

"I can't see where there can be a mistake!" he growled. "I worked every detail of the thing out with painstaking care. If there is a fault at all, it is either in the apparatus itself, or else we are expecting things to happen too soon. I'll take the thing to bits to-morrow, if nothing else presents itself."

"Well, if that's all there is for it, I may as well be going," Anderson remarked, rising to his feet. "I've not had much sleep lately, what with helping you and trying to get through my own work——"

"I know," Renhard said, in a quieter tone than usual. "You've been very good, Anderson, and I appreciate it. I know I'm intolerable at times. I'll have to try to take myself in hand."

"I should," Anderson said with a faint smile, pulling his hat down more comfortably. "I—— Hm-m-m. Seen my right-hand glove anywhere, Professor?"

"Eh? Why, no."

"I could have sworn I left it on this table with its fellow. Here's one, but where is the other?"

Renhard pressed a button upon his desk, and presently his manservant, Gaston, appeared.

"You rang, sir?"

"Yes, Gaston. Do you happen to have seen one of Dr. Anderson's gloves about anywhere?"

The peculiar, unaccountably glowing eyes of Gaston turned to Anderson, then back to the professor.

"No, sir, I have not seen it."

"Very well, Gaston; thank you."

Anderson shrugged. "Well, it doesn't matter. See you to-morrow, Professor. Good night."

"Good night, Anderson," Renhard answered absently.

He sat for a time in deep thought after his friend had gone. Then he rose to his feet, and went once again in the direction of the back room where his apparatus was housed.

"Must be the apparatus itself," he said to himself, for about the fiftieth time. "I'll fix it to-morrow; but I had better shut the window and stop this devilish draught whistling down the passage."

He entered the room, picked his way among the electric cables to the window and reached up and seized the frame. But, just as he performed that action, it seemed as though a knife of white-hot steel was driven through his body. He gasped with sudden pain and dropped, involuntarily, to his knees. It came again, but more piercing and terrific, snapping the life out of his vitals.

He turned his head, and saw that he was in a direct line with the vibrator lens. But surely he had switched the machine off? He made a last, gasping effort to call for help, to call Gaston; then a sledge-hammer blow seemed to rip his brain asunder. He collapsed without another sound to the floor, stone-dead, while the vibrator still issued forth its mysterious negative energy. . . .

DR. ANDERSON awoke early the following morning, with a distinct inner conviction that, somewhere, something was amiss, though what it was he could not define.

It was still dark when he awoke, and a glance at his luminous watch showed him that it was six-thirty. The room was in darkness, and the only sound was the deep breathing of his wife in the bed beside him.

Following his usual custom after his ablutions, he crossed to the window to open it and allow the fresh morning air to enter, so that he could perform his brief breathing exercises. Humming a ditty to himself in a soft baritone, he slipped back the catch and flung the frosted-glass sash wide open. A moment later, he collapsed limply upon the

window-frame, and stared with goggling eyes to the east, muttering soundless words.

The Sun was in the sky, just clear of the horizon—but what in Heaven's name had happened to it? It was just a blazing, yellow-white ball, with a vague hint of solar prominences caressing its edges, rising in an almost dead black sky! The stars were still shining, despite the sunlight. Nature was suddenly intoxicated.

"Great God!" Anderson whispered at last, drawing himself up and trying to imagine there was, perhaps, some kind of eclipse in progress. Then: "No —no eclipse," he said to the dawn. "It's something else!"

Recovering from his first terrific shock, he tightened the girdle round his dressing-gown, and hurried downstairs —to encounter Cawley, his manservant. For once in his imperturbable life, Cawley was looking oddly shaken and uncertain. He jumped as his master clutched his arm.

"Cawley—I'm not mad, am I?" Anderson asked quickly.

"If you refer to the dawn, sir, no; you are quite sane—but, with all respect, sir, it's a hell of a queer thing!"

"I'll forgive your language, Cawley. It's apt, for once." Anderson stood still and thought for a moment, then glanced again at his watch. "Cawley, I believe I have an idea what is causing all this! Renhard—the vibrator! Of course! What an idiot I am!"

"Beg pardon, sir?" Cawley elongated himself into stiff servility.

"Nothing, Cawley; nothing at all. Just thinking aloud. Listen carefully. I'm going out. When Mrs. Anderson comes down, tell her I'll return shortly; tell her that I've been called away on a very urgent case. Urgent! I should say it is! The most urgent I've ever known. You understand, Cawley?"

"Perfectly, sir."

Within ten minutes Anderson was dressed and had stepped out into that astounding dawn. Almost immediately he became aware of pale, frightened faces staring up at the black skies, of milk boys and news vendors shouting with a tremor in their usually husky voices, of uneasy glances cast to all points of the compass, as though in expectation of some approaching terror. Anderson reflected that he was perhaps the only man in London who could smile under the circumstances. Of course, that infernal vibrator had worked—but too effectively!

Another thing Anderson noticed, as he hastened towards the professor's home, was the utter blackness of the shadows when he passed out of the sunlight. They were like ink; triangular enigmas in which he floundered about helplessly, able to see the Sun beyond, yet not a thing where he stood. Diffusion of light, refraction, had gone.

He was bruised, hot and troubled when he finally arrived at the professor's house, only to receive another shock. Two policemen were at the gate, and a little knot of curious sightseers were gazing at the closed front door. Even the astounding sky failed to impress them, evidently.

As Anderson made to turn in the gateway, a strong, blue-clothed arm detained him.

"Sorry, sir; you can't go in there."

Anderson looked blankly at the constable. He seemed very solid and unworried.

"Can't go in? Why not?"

"There's been a murder. Professor Renhard, who lived in this house, has been killed."

"Killed!" Anderson clutched the gate-post for support. "But—but that's impossible! Why, I was only talking to him last night! I'm his greatest friend—Dr. Anderson. I *must* go in, I tell you!"

A strange light entered the constable's eyes.

"Dr. Anderson, eh? That's different, then. You'd better come in and see Inspector Wade."

Anderson was escorted into the fami-

liar study, and there beheld another constable and a plain-clothes man. The detective looked Anderson up and down sharply.

"You are a friend of Professor Renhard's?"

"I am his greatest friend and confidant. My name is Anderson."

"You can prove that?"

"Of course. Gaston, the servant, will do that. Ring for him."

The Inspector complied, and presently Gaston was before them.

"This gentleman here says his name is Anderson and that he is a close friend of Professor Renhard's. Or, rather, he *was*. Is that so?"

GASTON'S strange eyes were gleaming as he answered:

"Yes, sir; that is Anderson, certainly." Then he turned aside, and muttered something in the Inspector's ear. The Inspector nodded grimly.

"Dr. Anderson, when did you last see Professor Renhard alive?"

"Last night. He was in perfect health. Where was he found? How do you know he was murdered?"

"He was found in the room next door here—with a knife deep in his heart!"

"A knife!" Anderson echoed in horror. "But—but——"

"A surgical knife; I believe it's called a scalpel," the Inspector proceeded in slow tone. "And what is even more peculiar, it bears your name on the hilt!"

"My name! But there is some absurd mistake here, Inspector——"

"I don't think so," returned the implacable voice. "I was intending to have you looked up in any case, but it seems there's some truth in the old adage that a criminal always returns to the scene of his crime!"

Anderson straightened up. His face was suddenly crimson with indignation.

"What the devil are you talking about?"

The Inspector did not answer. Instead, he led the way into the adjoining room.

Mutely, Anderson looked about him. The professor's body lay where it had fallen by the open window, before the vibrator, which had now ceased to function completely—not that Anderson considered there was anything unusual in this, since he believed it had been switched off properly the night before. A surgical knife was buried in the professor's chest, directly above the heart. A crimson stain discoloured his coat and the white boards of the floor.

In silence, Anderson went down on one knee and looked at the knife closely, without touching it. Sure enough, his name was neatly executed on the ivory hilt.

"Why, this knife vanished from my surgical instruments years ago, just after I had performed an unsuccessful operation on a woman," he said, looking up startled. "How the devil did it get there?"

"That is a question only you can answer," Inspector Wade replied coldly. "I will reconstruct your crime. First, you entered here last night by some means or other; then you got the professor into this room, and killed him with this queer machine, which in some diabolical way broke every bone in his body—even his skull!

"I have elicited that fact from experiments on a dog—you see its body over there. We switched on that damnable contrivance, and found that it destroys life. Lastly, to make sure of your victim, you stabbed him to the heart with a surgical knife—your motive is at present unknown. Then you departed; but, as if your name on the knife wasn't enough evidence, you left your glove behind on the floor here."

"A glove?" Anderson turned startled eyes to his own right-hand glove lying on the floor. Vainly his mind tried to link things together. "But I lost that last evening, and asked Gaston if he had seen it, when the professor was *alive!*"

"Gaston saw you return and commit

the deed!" said the toneless voice.

"Gaston saw me return!" Anderson repeated incredulously. "But—but the man's crazy! I never killed the professor with this machine! It's an instrument for taking the dust out of the air, and that is what has caused the black sky this morning. It splits electrons and——"

"You dare make use of a perfectly natural eclipse to aid your tissue of lies?" the Inspector thundered.

"Eclipse! But this isn't an eclipse. In that case the Sun would be obliterated, and there would be distinct evidences of the corona!"

"I'm scientist enough without your explanations," the Inspector snapped; then turning to the constable behind him: "All right, take him away. He'll have to be medically examined. There's no sense in this butchery. Out with him!"

Utterly dazed and dumbfounded, Anderson was whirled into the next room, and handcuffed for a moment to the massive iron fireplace while the constable departed to hire a taxi. As he stood there, panting and furious, Anderson became aware of the sleek, strange-eyed Gaston standing beside him. He was smiling.

"Well?" Anderson snapped venomously. "What in hell are you laughing at, you swine?"

"Remember the young woman you killed in that operation, Anderson? Remember the girl, aged just twenty-four, young and beautiful, suffering from an internal growth that any surgeon should have removed without difficulty? And remember how your knife slipped? How you killed her?—destroyed her?"

Gaston's lips writhed back from strong teeth in a deadly snarl.

"That girl was my sister, you devil! She was everything in the world to me, and I trusted her to the hands of a —a *butcher*. But the knife that killed her will kill you! I stole it from your instruments; I've kept it all these years, and waited and waited for the moment when I could get you just where I wanted you.

"You will be certified mad, Anderson —I will see to that. I know enough about the vibrator to stop and start it, and I'm hoping to experiment with it myself while you are in a cell—a padded one, I hope! Yes; I stabbed Renhard, after he had died through getting in the way of the vibrator when it was supposedly switched off, and actually was not. And I saw to it that the police found your glove, which you so conveniently left behind."

"But I did not purposely kill your sister, you fool!" Anderson panted. "It was an accident—my hand slipped on the knife. I have never operated since."

"No, and you never will again," Gaston muttered. "I'll see to that, Butcher Anderson!"

CHAPTER III

THE DUSTLESS CITY

THE LAW was ruthless with the unfortunate, helpless Anderson. Before he had scarcely realised what had happened, and mainly owing to the insidious tongue of the vengeful Gaston, he was found guilty on a charge of murder, was certified insane, and promptly removed to an asylum.

All the efforts of his distracted wife and influential friends failed completely to alter the decision. And he was probably the only man, at that time, who could possibly avert the catastrophe that only too plainly was approaching. For, very soon after his arrest, strange things began to happen in the outside world. . . .

In some ways, Gaston was a scientific man. He understood what the vibrator did—that it destroyed dust, and human life also, if one chanced to get in a direct line with the stream of vibrations. So, Gaston operated the

machine to his own satisfaction, pointing it always towards the black sky. Until, one day, an accident happened.

Somewhere inside the instrument, a piece of mechanism went wrong, and all the external efforts of Gaston failed completely to stop the machine running. The interior he dared not explore, for fear of coming into contact with the deadly energy, if he investigated too closely. So the machine just ran on, while he grew more afraid of it every day, striving to think of a way around the difficulty, but failing.

Only Anderson knew enough about the machine to stop it, and repair it—and he was safely put away. Gaston, from then on, became a peculiar study in hatred and fear.

On the day of Anderson's arrest, London experienced the most amazing morning of its life—a morning of almost incredible activity amongst religious revivalists and so-called seers, who read in the black, Sun-and-starlit sky a potent message of impending destruction from the Almighty.

Collisions in the streets were remarkably frequent, being occasioned mainly by the absolute blackness of the shadows of buildings. In these shadows, it was as black as Erebus; there was no diffusion of light whatever. The result was that, in areas overhung by tall buildings, buses and motor-cars crashed helplessly into each other, their drivers strangely confused by the swirling lights of approaching traffic. Even collisions between pedestrians were equally prevalent, and the hospitals experienced the busiest morning for years, treating casualties.

Towards noon, as the black sky and the panic continued unabated, a deputation visited Greenwich Observatory. The official in charge was sympathetic, but vague. He confessed that he had no idea what had caused the celestial phenomenon. The only explanation possible was that, by some peculiar means, all the processes of refraction and defraction had suddenly become set at

naught—perhaps through the agency of some gas in outer space, through which the Earth, following her orbit, was passing.

It was not a cheering observation, at the best. Naturally, the newspaper reporters were quick to turn the information to their own uses, flavoured, as ever, by their own distinctive "scare" methods. The first evening newspaper editions were permitted to have bolder, larger headlines than usual:—

EARTH IN DANGER OF DESTRUCTION

MENACING GAS-CLOUD IN OUTER SPACE

THE man-in-the-street, to whom the newspaper is all-in-all, became a trifle worried. Business became jerky. In trains, trams and buses, the one topic of conversation was the black sky. Men and women who previously had been so absorbed with their daily task that they would have

been surprised on being told that the sky's normal colour was blue, suddenly showed astronomical tendencies and revealed latent and unsuspected scientific qualities.

Cinema audiences were curiously restive that night, while waiting in their seats for the show to begin; then, at what they beheld, they sat in sudden awed silence. For the screen images were cut as though with a stencil—were almost three-dimensional. Yet between the screen and the projector-box there was no *beam!*

The more thoughtful of the audience pondered over this curious fact. More than one puzzled operator surveyed his sizzling carbon arcs with troubled eyes, unable to account for the blinding brilliance, which certainly had not been in evidence the day before, or studiously checked his ammeter to make sure the arcs were not taking an overload—and found everything in order. The trouble, whatever it was, must be in the air itself.

Another thing upon which almost everybody in the theatre remarked was the almost unnatural clearness of the sound apparatus. Every word was clear-cut and keen; and the actors seemed as though they were going to walk right out of the screen and come down into the audience, so lifelike was the effect.

Outside, the astounding clearness of sound was again evidenced. The very air seemed to crackle with crispness. The hooting of tugs on the Thames, the whistle of trains from the stations and yards, came clear and shrill above the deeper, roaring note of the traffic.

It was a suddenly changed world—a world of unaccountable happenings, in which sound and light had increased in intensity, and yet where silence and darkness were more profound than ever before. And still, in a little laboratory in Kensington, reposed the answer to the riddle. . . .

By midnight London, for a change, was comparatively silent. The populace, worried by the events of the extraordinary day, had retired earlier than usual. Hundreds heard Big Ben chime, that night, who had never heard it before, so distinctly did the sound carry through the still air.

The following morning, the sky was still black; once more there was an unearthly sunrise of a blazing, yellow-white ball that shed its pitiless brilliance on a panicky city. Then it became known that this black area had only a radius of two thousand miles, and beyond that radius was the blue sky and sunshine and shadows which man holds dear. As a result, an exodus to places beyond the two-thousand-mile limit began.

The newspapers, as usual, were full of remarkable information, the most important being two columns by the astronomical correspondent upon the finding, by the observers of Greenwich Observatory, of several new galaxies that had never been seen before. Also, observations of Mars and Venus were greatly simplified, the markings on their respective surfaces being startlingly clear and comparatively free from vibration.

It did, nevertheless, jar the ordinary business man to discover that, despite a night of intense coldness, there was no trace of frost that morning; nor was there any dew. Yet the air was keen—incredibly, strangely keen.

THERE was one man, however, who surveyed the strange happenings from a scientific angle. His name was not prepossessing—Samuel Brown—and his personality was obscure. To the outer world, Sam Brown was a solicitor's clerk, but there were some who knew him to be a man of natural scientific talents, and he now found ample scope for his hobby in the sudden odd happenings that had come to pass.

It was on the second evening that he confided his opinions to his not-too-brilliant wife.

"Elsie, there's something more behind all this business than an agency in outer space!"

His wife sewed deliberately for a moment, then turned one doubtful, blue eye upon him.

"Suppose there is? What are you going to do about it, Sam?"

"I don't know—yet, but I'm going to have a shot at doing something. The death roll is mounting day by day. This is the time for those who understand a little to expound their views! The scientists are baffled, but I'm not so sure that I am."

He screwed his head round, struck by a sudden thought, and pensively surveyed the sideboard—a massive heirloom from his great-grandmother. Then he ducked his head, and looked intently along the top of the thing.

"If you're looking for dust, Sam, you'll find plenty!" his wife remarked. "I haven't cleaned that sideboard for days. What with cooking and washing, I never get the time. Why you don't get a smaller sideboard instead of that lumbering thing, I don't know."

Sam looked up, pondered for a moment, then quietly but forcefully took his wife's arm and led her, protesting feebly, across the room. When they came to the sideboard he pushed her head down, with delightful familiarity, until her eyes were level with the sideboard's top.

"Look along there!" he commanded. She obeyed, and then gave a sharp exclamation.

"Why, Sam, you've cleaned it for me! Why—and the polished wood round the carpet-edge, too! What's come over you?"

Sam slowly shook his head. "No, Elsie, I haven't cleaned anything. The solution is exactly what I've believed all along. *There is no dust!*" And he stood looking at her solemnly, his round face full of the intensity of his statement.

Elsie's brows knitted. "No dust, Sam? Oh, go on with you!"

"I mean it, Elsie. Here—come to the table, and I'll figure it out for you."

They sat down. Sam tore the margin from the evening paper, and produced a stump of pencil; then he proceeded to execute what he was pleased to call "higher mathematics."

"Black sky, amazingly brilliant lights, r e m a r k a b l e astronomical observations, inky shadows, clear sound, and now—no dust on a polished surface. Elsie, somebody or something is annihilating dust!"

"You—you mean stopping it, Sam?"

"Yes, stopping it. But why, and how, is the point. I'm going to sort this out."

Elsie sighed, and thoughtfully scratched the end of her nose. "And we've only just paid the first instalment on the vacuum-cleaner! If there's no dust, we shan't need it."

Sam smiled grimly. "Elsie, there'll be a lot of things we shan't need if this dustless world goes on. But it won't go on! I promise you that."

His wife resumed her arm-chair, and sniffed.

"GENTLEMEN," said the chairman of the Cleenwurld Vacuum Company's board of directors, "our sales have dropped nearly seventy-five per cent during the past week. It is a week since this strange condition of a dustless, rainless, dayless world began, and our firm is on the brink of disaster! These conditions cannot go on!"

Unfortunately, however, the chairman found no means of preventing the conditions from going on, with the result that, shortly afterwards, in common with other makers of dust-removing devices, the Cleenwurld Vacuum Company vanished from the commercial map.

About the same time, the street-cleaners of London were instructed to cease work. London was a city without dust. One or two mechanical contrivances could quite easily cope with

the slight amount of paper litter and other refuse. So it was in every case where dust was the provider of labour; and so the unemployment figures began to mount.

Little by little, the grey face of London underwent a change as the eighth day of black sky and blazing Sun appeared. Buildings which had been covered in the grime and filth of ages began to reveal their real faces from under the canopy: the dust was disappearing from their black façades and soot-encrusted ornamentations. Here and there, the long-hidden eyes of gargoyles looked out anew on the infinite strangeness of the dustless city, while the grey dinginess of the Thames Embankment took on a clean newness, as though sprayed with some all-powerful cleansing fluid.

Everywhere, dust was on the march; was vanishing beneath the force of the still-unchecked vibrator in the centre of the city. The exploding of the dust atoms, that had begun in the upper reaches of the air, had now spread downward to the lower levels, and was making itself manifest in every nook and cranny.

Limehouse, once lost in the filth and dirt of accumulated centuries, became a place of slowly whitening wonder. At each turn one was met by a building or street rendered suddenly and unaccountably unfamiliar by the change in its appearance. Even the grime of the great railway stations began to vanish, and as time passed, Londoners were presented with the incredible spectacle of Euston and other stations rearing up as bright-red buildings with clean glass roofs, every engraved foundation stone as clear-cut and plain to read as on the day it was laid.

So complex is the human mind, so unexpected man's reaction to environment, that it was considered quite natural when the earlier fears of the populace changed to awe, and then pride. They became accustomed to the black sky, and powerful flood-lighting rendered shadows no longer dangerous. The first disasters were now absent. The steamship companies, ever awake to the topic of the moment, advertised cheap fares for visitors from other lands to come and view the transformation of a city.

So it was at first. Then, presently, rather alarming reports began to be received by the world's Press. The blackness was spreading!

It covered an area, now, of three thousand miles, and was spreading gradually with every hour, in a fan-shape. The annihilation of dust atoms would go on, now it was started, until something was found to counteract it. Dr. Anderson, in his asylum cell, heard this news indirectly, and cursed the fates, circumstance, and Gaston.

CHAPTER IV

A WORLD OF DARKNESS

WITH this new information, fear began to return slowly; the novelty died away. The benefit of disappearing dust and its consequent lightening of labour, the rising of new, clean cities out of the black masks of the old, could not allay that new, deep-rooted fear. The terrible thought that perhaps blue sky would never return, began to become an obsession.

The fear heightened when a strange illness broke out in London. It commenced with a sensation of irritation upon the skin, more particularly on exposed parts, which rapidly spread to the entire body, and finally to the mouth, causing death from uncontrollable coughing.

The physicians could not understand the malady in the least; it was something that had never been known before. They were still in the dark when there appeared none other than Samuel Brown himself, neat, incon-

spicuous, and carrying a brief-case in his hand. After a great deal of trouble, he was admitted to the sanctum of the head surgeon of London's most important medical institution—Dr. Long.

Dr. Long was not very gracious.

"It is to be hoped, Mr. Brown," he said testily, "that you have something of import to convey. Only on those conditions can I possibly spare the time to converse with you."

Brown smiled faintly. "You may, perhaps, feel more disposed to converse when you are aware that I have come to tell you what is the cause of the peculiar malady that has broken out in the dark areas."

Dr. Long permitted himself a faintly cynical smile. "You are the fourth person to-day who has undertaken to explain that," he said coldly.

"Man is ever ready to make capital out of accident or circumstance," Brown responded calmly. "I know what I am talking about. I have not come here to waste your time. As a solicitor's clerk, I know that time is valuable, and——"

"A solicitor's clerk! And you dare to come here and attempt to expound the nature of a new disease! Sir, this is preposterous!"

"But the truth, all the same. Dr. Long, the cause of this deadly disease is dust destruction!"

"Dust destruction?" Dr. Long's eyebrows shot up, and then down again. He fixed the unmoved Sam with a deadly stare.

"The cause of the black skies and a clean London is exactly the same thing—annihilation of dust," Sam went on steadily. "The trouble has now spread to human beings, who are always, no matter how clean, covered with a certain amount of dust. This dust is disrupting upon their skin, and when it reaches the mouth and nose, sets up a fatal irritation. That is the explanation."

"Utter rubbish!" Dr. Long snapped hotly. "I have never heard such balderdash in the course of my entire professional career. The disease is simply an advanced form of—er—erysipelas."

"You do well to hesitate before using that word," Sam said grimly. "You know as well as I do, Dr. Long, that this disease is as far removed from erysipelas as the North Pole is from the South. You don't like being taught your job; that's what's the matter with you!"

"How dare you, sir? How dare you? I am sorry, Mr. Brown, but I have no time for you. Good day!" The strong chin projected adamantly.

Sam shrugged. "Very well, then, Dr. Long. But you will be *very* sorry you have no time for me. Good day to you."

FROM there, Sam went direct to his flat. His wife, curiously greasy and besmudged, with a cretonne apron tied almost painfully round her middle, came shuffling into the little drawing-room as he entered.

"What's the matter, Sam? Why aren't you at the office?"

"Because I've more important things to do, Elsie. Law doesn't interest me when the fate of a planet is at stake. Here I am, with the one cure for a world disease in my very hands—written down on these papers—and Dr. Long won't listen to me because it looks as though I'm telling him his job.

"Bah! The little-mindedness of it all! I think I prejudiced him at the start by telling him I was a solicitor's clerk. Had I given a Russian name, and presented myself with a bushy beard and a fierce compulsion in my eyes, I might have got somewhere with him."

"Well, I told you to stick to law, Sam." Elsie wiped her lard-smeared hands on her apron, and thoughtfully sucked a hollow back tooth. "You should have kept to your affidavits and——"

"Elsie," Sam interrupted her, "I

married you because I loved you—and I still do—but if you keep on harping on what I ought to have done, instead of what I am going to do, I'll hit you over your dense head with your own rolling-pin! Now get on with your cooking, and leave me to think."

"Oh, all right."

Elsie slowly obeyed, and Sam set himself to think—hard. He spent a time gazing out of the window over the lowering roofs. Then he looked up at the black sky.

"Either a devil or a saint," he whispered. "Either the creator of this trouble sought to improve the world, or else he sought to make it a world of terror. The destruction of dust! Now what could cause that? Vacuum? Not on such a big scale. Or tremendous wind pressure? No; that would necessitate a gale, and it has been as still as the grave ever since this business started. Electricity? Hm-m-m; that might be responsible for anything, as so little is really known of its fundamentals. I'll work that out."

After some difficulty, he located a writing-pad and flung it on the table beneath the electric light—a light that had never been extinguished for nine days, except during sleep, for the flat was in the shadow. Then he set to work to figure the matter out.

By the time Elsie had shuffled in again, he had the thing clear in his mind.

"Elsie," he said decisively, "it's disruption. Electrical disruption. Figures prove that it could be done."

"What's electrical dis—dis—whatever you called it?" Elsie inquired.

"Disruption of the atoms, of the molecules, of the very *being* of dust, by some electrical energy."

"Well, now you've found that out, what do you propose doing about it?"

"I'm going to *stop* it!"

"How?"

"By an improved system of my cure for the disease. You see, when the atoms of dust start to disrupt upon a human being, the only thing to stop it is the removal of the dust atoms themselves. I didn't know until I worked it out that it was the *atoms* of dust that were causing the trouble. I merely thought the dust itself was somehow disrupting.

"The thing to stop the latter condition would be a very powerful, but minute electrical vacuum capable of drawing off every particle of dust from a human form. That would stop the disruption spreading until it became fatal. Once it reaches the vital organs nothing can be done about it, of course; the thing to do is to check it in its incipiency.

"But now that I know it is the atoms of dust that are being disrupted—possibly the disintegration of the electrons causing collapse of the atomic structure—I can work even more successfully. The dust atoms that are whole must be *divided* from the disrupting areas by a beam or shield of sufficient vibration to prevent the disruption continuing.

"Like an asbestos screen would stop a fire spreading any farther. You get the idea? And it must be a vibration capable of exerting a negative effect upon the exploding atoms. That will require some working out."

"And you gave up a steady job to discover that!" Elsie sighed. "I've not the least idea what you're talking about, and I'm not altogether sure that you have, either."

Sam chuckled. "Leave it to me, Elsie. Now, be a good girl and let me work in peace."

THE next two days brought trouble and strife in the dustless world. The farmers rose in a body, and made a vehement protest to the government, urging them to make some attempt to remove the conditions that were existing. Plants and crops were suffering from the continued lack of moisture. Never a cloud was seen in the sky—it remained coal-black;

there was never any dew or frost. Rivers and brooks were at their lowest ebb for years, and becoming still less, presenting a greater and more serious problem. Water was coming to an end! The supply in the reservoirs was dropping lower and lower, and there was not the vaguest sign of rain. Little by little, troubled humanity began to realise that it was being forced into a tight corner.

The water shortage was the seed of disaster, creeping over the world with the gradual spreading of the dark areas. More and more remote became the view of a blue sky; and Sam Brown worked night and day, that he might have a blue, dusty portion of sky left on which to experiment.

So desperate was the position that a conference of the world's governments was convened to review the situation. It was at best a forlorn hope that anything would emerge, with the trouble now so far advanced, but public opinion demanded action.

The meeting, naturally, came to nothing. Nobody could explain the cause of the trouble, and nobody knew how to stop it. The idea of consulting some of the world's great scientists and electricians never occurred to these political geniuses; the idea was as far from their minds as the thought of Sam Brown having the solution to the problem in his hands.

So, very gradually, utter and complete catastrophe began to make itself felt. In all countries where the dark areas were at their worst, death, famine, and pestilence were rife. Plants, trees, grass were shrivelled, warped and withered under the black, star-and-Sun-ridden sky. At night there was no change, save that the Sun vanished to give place to a steely Moon, and strange, hitherto unknown constellations gleamed in the heavens.

London, New York, Berlin, Paris, Brussels, Vienna—all were no longer cities of business. They were cities of thirst and misery, of pestilence and incurable disease. And yet everything, by a grim irony, was as bright and clean as though washed with flowing streams. Nowhere a speck of dust—and nowhere a drop of water!

Only a track of five hundred miles of blue sky now remained, and this had its centre over the plains of Central Russia—the one point in the world where the atomic disruption had not yet reached, where the consummation of dust destruction still hung fire. But, minute by minute, that stretch was narrowing; minute by minute, the sky of man was melting away. . . .

CHAPTER V

SAM BROWN'S MASTERPIECE

IT WAS at this point in the tragic history of stopping the dust that Sam Brown completed his invention. It was a brilliant piece of work, but only his eyes admitted the fact. To his wife, it was a cumbersome affair of boxes and dials that consumed a great deal of privately generated electricity to keep it going—for the ordinary current had long since ceased, owing to the failure of water energy.

"My figures prove that it works, Elsie," Sam said. "The only way I can get help is by getting somebody to finance me to Central Russia, where the remaining path of blue sky exists. If that gap vanishes, I'm powerless! All dust will be gone, and I can't separate the normal from the explosive. I'm going to the Government—to Whitehall—right away."

"Whitehall?" his wife echoed.

"Yes; and if I don't come back, don't worry. I haven't a moment to lose: I'll return when my work is ended. Now, be a good sort and help me pack these things up."

In Whitehall, Sam was listened to attentively, mainly because of his earnestness, his apparatus, and his per-

fectly logical reasoning. The chairman of the meeting, at Sam's request, sent for an electrical expert from Greenwich, and this individual, after checking up Brown's figures, sat in awed silence for a while.

"Mr. Brown, it's a masterpiece!" he declared at last. "If the cause of the disruption is what you think it is, then undoubtedly this machine will stop it. I——" He paused, and the chairman frowned as a clerk entered, bearing a card.

"All right," the chairman growled. "Show him in, please."

A tall man, with bushy eyebrows, entered and bowed stiffly.

"Your mission is urgent, Dr. Long?" the chairman asked. "I am much occupied."

"My mission is a matter of life and death. People are dying by hundreds. It is essential that something be done. I seek your most earnest co-operation, and——"

Dr. Long paused and stared hard at Sam, who had just raised his face from his notes.

"Mr. Brown!" he ejaculated. "You!"

"Who else?" Sam inquired pleasantly. "But don't let me interrupt you, doctor."

"I've been searching all over London for you," Long said intensely, clutching the unmoved Sam's arm. "You never left your address when you visited me. That cure of yours. We are ready to try it. Ready to do anything to try to stop this malady——"

Sam shrugged. "I have had too much important business elsewhere recently, to try and interest senseless dolts in my antidote for the malady," he remarked coldly. "Here are the papers—take them, and perhaps they'll help you realise that nobody is ever too clever to learn."

Long almost snatched the papers, and raced from the room.

"Mr. Brown," the chairman remarked, "it seems as though you are going to be our saviour. We will do anything you wish; even if you do not succeed, it cannot make things any worse. What are your wishes?"

"The fastest possible aeroplane to Central Russia. I require several trained electrical experts, and a good pilot who knows his way to the one remaining fragment of blue sky by the shortest route. That is all."

"It shall be done immediately, Mr. Brown."

SO IT came about that when the last stretch of blue sky in the entire world had shrunk to only ten miles in width, Sam Brown set up his apparatus among the barren hills and plains of Central Russia, amid cutting winds and bitter cold, surrounded by his little group of picked experts, two high-powered aeroplanes, and the intensely anxious Government representative.

"If my theories are correct, the vibration energy from this instrument of mine should give a fan-shaped extension of vibration upwards to a fourteen-mile limit," Brown said. "If we calculate the velocity of the disrupting vibration at 180 frequencies—and that is about what I think it is—it stands to reason that the frequency of my 'curtain,' working transversely to the disrupting energy, and having a frequency of over 2,000, will block the path of the disrupting atoms and save that bit of normal sky which is left.

"After that, when the last of the disrupting atoms on the disruptive side of my screen have exploded, we can remove the shield, and very gradually the dust will spread and multiply from that blueness, and disseminate throughout the world again. We will build fires, make great smoke columns, do hundreds of things to make dust. Now, are we ready?"

The instruments were set up in their predetermined positions, and for a time, everything was strain and

anxiety. Sam flitted about in his huge overcoat like some goblin, peering at this and inspecting that, until at last he raised his hand and gave the signal.

The apparatus immediately started work, and a pinkish screen spread outwards and upwards towards the blue sky that remained, its edges sharply etched out by the encroaching blackness.

In utter silence, the watchers stared upward; then, with a bitter oath, Sam tore off his hat and flung it on the hard ground.

"Failed!" he groaned, hoarsely. "Look! The blackness is still spreading! My judgment has been at fault."

"But your figures—your calculations!" the electrical expert protested.

"I know, but——" Brown stopped dead; then suddenly he snapped his fingers.

"Got it! Whatever is causing the disruption is *still working*, and it is stronger than my apparatus. I underestimated its power." He looked round on his silent colleagues.

"Gentlemen, we have about twenty-four hours in which to locate the instrument that is causing the damage, and to get back here. What are we to do?"

The engineers scratched their heads, the Government representative stroked his chin, and two air pilots fingered their coat-belts. And above, the blackness encroached a trifle farther through the pink screen.

"We have not the time," the Government expert said at last. "We have not the time."

BACK in London, certain curious events were taking place.

At the house of the late Professor Renhard, a wild-eyed, unshaven individual was creeping silently down the stairs. He crept down the hall, and opened the front door. Then, like some hunted animal, he descended to the street—a street lit by the Sun flaming in the black sky; a street devoid of traffic, where the corpses of dogs and cats lay scattered here and there.

"Destruction! Death!" Gaston murmured. "Because I couldn't stop the machine! I cannot stand it any longer. I must find Anderson! Do you hear, *I must find Anderson!*" he shouted to the black, starry skies, as he wandered through the inky shadows, only one thought in his burning brain, tottering on the brink of insanity through lack of water and a nursed revenge.

Tattered and unkempt, he skulked through the streets, halting ever and again at a despairing shout, slinking into the pitchy darkness as a huddled form crept past him like an animal in the gloom.

At the gates of the asylum where he knew Anderson was imprisoned, Gaston collapsed. He was carried inside by attendants.

"Anderson!" he muttered, clutching the arm of the supervising officer. "I must see him! Let him free! He is not mad; he is the only man who really knows how to stop this world disaster—how to take away the black sky. I got him in here by a trick. For God's sake, let him out!"

"We can't take your word for it," said the officer stolidly. "There are many formalities to be gone through."

Gaston sat up, and looked at the officials with burning eyes, then suddenly whipped out a loaded revolver from his hip pocket.

"Will you do as I say, or not?" he demanded thickly. "Hurry, you idiots! There'll be no red tape this time—just action!"

Other officials appeared, but they hesitated at the sight of Gaston's blazing eyes and the revolver. Holding them at bay, dodging about with superhuman agility, he circumvented their every move, until at last he had forced them into the main corridor of the building.

"Get busy!" he commanded; and the wardens, all affected by the strain of recent events, and their own torturing

thirst, obeyed with a weakness which would never have obtained under normal circumstances. Down the passage, a cell door opened and Anderson came staggering out, gaunt, hollow-eyed and bearded.

"Gaston!" he ejaculated hoarsely.

"Yes; it's me, Anderson. I've done irreparable damage, and this is a slight effort to atone for it. That damnable vibrator has jammed—is running perpetually on its own power. It hasn't a water generator, or else it would have stopped long ago. For God's sake, stop it!"

Anderson clutched the ex-servant's shoulder. "But even if I stop it now, the atomic disruption will go on!"

Gaston nodded weakly. "True. But when the last atom of dust has exploded, there will be no more disruptions if that instrument is shut off. Dust will gather again and settle, and the world of men will return. Go on, Anderson; do it—save the world of the future, at least! I'm—done!" And Gaston collapsed to the floor.

"You're not leaving here! We must have proof of your sanity first," snapped the supervisor.

"Proof be damned!" Anderson snarled, swinging round on him. "I'll give you proof such as no man has ever had before. Come with me—give me this one chance. Bring strait-jackets, revolvers—anything you like, and if you're not satisfied when I've finished, you can lock me up for life. Now come on!"

Ten minutes later, a powerful car swept out of the asylum drive towards the abode of the late Professor Renhard—the man who had stopped the dust.

"THE blackness has ceased!" Sam Brown exclaimed suddenly, pointing upwards. "We win, my friends! We win! See, the blue is spreading, very slowly—already the dust is spreading outwards—giving us back our blue sky—our world of brightness!"

In silence the others looked upwards, all unaware that, at that identical moment in London, Dr. Anderson had stopped the outflow of the vibrator. Instantly, Sam Brown's counteracter was able to exert itself to its full effect.

"Yes—we win!" Sam said again, in a voice of triumph. And those were the last words he ever uttered.

Abruptly, as the blueness began to spread, it seemed as though the pink screen suddenly warped and bent downwards. There came a blinding blue flash from the instruments, and a terrific explosion that tore up the ground for a mile in every direction. Men, apparatus, planes, instruments—all vanished in fragments; but the blue sky still spread, bringing back normalcy to a tortured world.

For, with all his careful calculations, despite the constant checking of his figures, Sam Brown had forgotten one thing. The hurling forth of the negative power designed to stop the explosion of the atoms would entail a recoil thousands of times greater than that of firing a shell from a big gun. Hence, the recoil had compressed itself into the useless confines of the instruments, and blown them—and the men—to fragments.

READERS' REACTIONS

Readers are invited to write to the Editor stating their opinions, frankly and concisely, on the merits of each issue of TALES OF WONDER, *or upon any subject arising out of its contents. Address your letters to* TALES OF WONDER, *The Windmill Press, Kingswood, Surrey. If a personal reply is desired, a stamped, addressed envelope should be enclosed.*

READER ROBB'S REVIEW

THE first thing to note about the latest issue of your magazine is its striking cover; in many ways, the finest you have yet put out. There is something about a starry space-scape, complete with hurtling rocket-ship, that fires the imagination as no other scene can. In this case, the Sun is a trifle too lurid and prominent, tending to steal the picture from its most important component, the space-ship, but otherwise the painting could hardly be bettered.

The inside art-work, in spite of a certain rigidity of form, has undoubtedly improved, and needs only enlargement to be really inspiring. Of the stories, I place Beynon's "The Venus Adventure" first. It is a tale that bears re-reading, not once, but many times, and of how many can this be said? Its only defect is its brevity, as the author himself admits; there is material here for a book.

Next in order comes Keller's "The Yeast Men," an unpleasant but valuable contribution to the literature of scientific warfare. The genial Doctor's dry humour pilots us safely through a welter of nauseous slime which I, for one, consider a far from "merciful" weapon, as he describes it. For its caustic satire—more implied than stated—and for its worth as a piece of anti-war propaganda, it needs careful consideration, especially in these uncertain days.

"Creature of Eternity," in spite of occasional lapses into melodrama, is sufficiently impressive to come close on the heels of Dr. Keller's little masterpiece. There is real pathos in the tragic awakening of that super-intelligent monster, and its inhuman reactions are described with a very sensitive fidelity. Mr. Hugi is outgrowing his early amateurishness, and shows signs of something approaching brilliance. So long as he depends for his local colour on places with which he is familiar, and continues to invent credible characters, so long will he find that his powerful imagination does not lead him astray.

The remaining stories are unremarkable, rousing me neither to glowing praise nor vigorous condemnation. "The Big Cloud" is an agreeable trifle, and nothing more; much too short for complete development of its promising theme. A sequel is indicated, introducing the same characters, and pitchforking them into further adventures at the third coming of the Cloud.

"City of Machines" seemed a stale re-hash of so many much better stories that I can't enumerate them all. Suffice it to say that there were hints of Don A. Stuart, and even Edmond Hamilton, without the poetic atmosphere of the one nor the originality of the other—his only redeeming feature. Still, it had its moments, although few and far between; the horror and hopelessness of Henlow's predicament were well conveyed.

"Across the Abyss" suffers by comparison with "Star Maker," with which it has its main theme and some incidentals in common. Here again is a tale too brief, by far, for all its possibilities. But I'll say this for it—that the climax is artistic. Clarke's article is a model of lucid exposition and deft descriptive writing. I should like to see something more out-of-the-ordinary from his able pen.

"Authors' Corner" brings us Beynon in a mood of calm reflection which shows that England's foremost science fiction author thinks deeply on vital issues. The review of Bennett's novel is excellent. By the way, who is "F.E.A."? More reviews by him, please! — OSMOND ROBB, 107, Montgomery Street, Edinburgh.

(*Mr. Robb sends us a comprehensive review of our last issue which is so well executed that he almost deserves to receive again the Guinea Prize for the best letter, which he carried off last time. But we think he will agree that it should, in all fairness, be awarded to a reader who has not received it before—especially since he so obviously writes with the primary idea of helpful criticism. Keep it up, Mr. Robb! "F.E.A.," for your information, is Frank Edward Arnold, author of "City of Machines."*—EDITOR.)

OUR BEST ISSUE

I READ the latest TALES OF WONDER in the train on my return to Liverpool from Rye. This is always a painful process, and hardly ideal for giving unprejudiced attention to any magazine, but yours won me over completely. Although there is no story in the issue rising to the heights of "The Smile of the Sphinx," and although No. 4 is still my favourite, I think this is, taken all round, your best issue to date.

The stories are all good, though Coutts Brisbane is a bit unpleasant and unexciting, and Frank Arnold suffers from a tendency to batter the big adjectives and exclamation marks—his story should have been called "Coo Lumme!" The illustrations are very much better; the figure-work is almost perfect. But we can at least attack the cover! This is an atrocity of the worst kind. The scientific errors I will leave, though there are enough to run a competition for readers to guess how many; but, artistically, it is a daub.

"The Venus Adventure" is, of course, a superb story. Beynon's style is absolutely flawless, and I don't think a better story could be chosen to appeal both to newcomers to science fiction and old enthusiasts. "The Yeast Men" is a readable, pleasant little story of the usual Keller brand of unpretentiousness. Arthur C. Clarke's article puts the case for rocket-travel very well, and ought to convert a few people. Hugi, too, writes well, and I enjoyed his story very much. There is a general air of quiet efficiency about it; that air is about the whole magazine this time, but his story shows it particularly.

Wallis writes his first really good story in "Across the Abyss." It's a bit too obvious, I think, but I enjoyed it. Why not run a referendum in every issue, to find out the most popular story? I am sure most readers would be interested to see which story came out top, and the addition of another department would add yet more distinction to the magazine. Please do not do as Mr. Osmond Robb says, and import other foreign stories; and no sequels, please.

Mr. Jack Gordon provokes much merriment. No humour? In saying that humour consists of "giving a grotesque and ludicrous twist to commonplace ideas," he misses two or three important points. A sense of humour is always the saving grace that enables people to realise when they are being grotesque and ludicrous—people without a sense of humour are always the most ridiculous.

In any set of circumstances, a sense of humour is an advantage, helping the possessor to retain a sense of proportion. In any case, the world of the future is certain to produce as many humorous situations in life as to-day does; science will not bring about a complete revolution in people's characters, so that they go about with perpetually long faces. Away, sir—get thee to a Wodehouse! Or maybe he likes Tchekov?—JOHN F. BURKE, 57 Beauclair Drive, Liverpool, 15.

(*Thank you for your suggestion of a readers' "referendum" on the contents of each issue, which we are considering, though wondering whether it might not stop them sending us their "Reactions" in more detail. We are sorry you feel so strongly about our last cover.*—EDITOR.)

SCIENCE AND LOVE

I AM taking advantage of your invitation to let you know my reactions to TALES OF WONDER, and firstly, I must say how pleased I was to see a magazine devoted to science-fantasy fiction appearing on British book-stalls. I certainly think you should publish monthly, or at least, bi-monthly.

Your covers are well done. I liked particularly the cover of No. 4; it had a peculiarly nostalgic effect that was most intriguing. I endorse opinions on the inside illustrations, however. These are poor, on the whole, although I think the artist is not being given a proper chance, restricted to that little rectangle in the corner of the page. Granted, you are not a picture magazine, but there is no doubt that good illustrations *do* help to sell a magazine.

I look forward eagerly to the sequel to "The Mad Planet." Although old, this story has stood the test of time, and was the best in your sixth issue. It was vivid; and I regard part of its success as due to the fact that the author treated his leading character as a living being. Many writers of this form of fiction allow their characters merely puppet reactions, in their desire to subordinate everything else to science.

And why, oh why, must so much science fiction be occupied with destroying or menacing the world? This poor old world; how many times has it been the victim of violent death from space? No less than four of the eight stories in No. 6 were concerned with this theme.

The only one over which I could raise any enthusiasm was "The Alien Error," and this, because the author has style. "The Thing in the Ice," in my opinion, was spoiled by the cliché opening. "The Mentality Machine" did not depend upon science for its entity at all, but was merely an ordinary thriller transferred to a pseudo-scientific setting; but here again, the author told a *story,* working up to a climax.

I do not wish to give merely destructive criticism; but we look to you to raise the standard of science-fantasy fiction, and surely science can be occupied with other things than battle, murder and sudden death. I note that some readers wish to eliminate all love interest from stories. Why? Are all scientists immune from the tenderer emotions? And even if they themselves are, surely the characters portrayed move in a normal sphere. One has only to point to the popularity of the late Stanley G. Weinbaum to see that a love interest is by no means incompatible with a good science-fantasy story.

I think, too, that the time is ripe in science fiction for stories containing more philosophical and psychological ideas. Too many authors—mainly American—are content to beat the same old drum, and the sound is becoming a little monotonous. I refer, of course, to their assumption that future times hold nothing more than modern capitalism enlarged to an interplanetary scale, and peopled with

adolescents who act like gangsters and talk like naïve children. That is why I am pleased to see that your magazine is attempting to get off the beaten track in printing some stories which contain ideas not already played to death.

Here are my reactions to your current number. Cover: very good, except for the fried-egg Sun. Stories: much better than in No. 6. It was with a great feeling of delight that I noticed the name of Coutts Brisbane; well do I remember some of his stories in the old days. "The Big Cloud" was interesting, and the characters were alive.

Your best yarn was "The Venus Adventure." Beynon's description of rocket-travel was a refreshing change from the usual laconic collection of buddies, stooges and collegiate boy scientists. The word "feasible" could well be used in connection with this story. "The Yeast Men" didn't register at all with me; it just did not seem to come to life. "City of Machines" and "Creature of Eternity" were two average stories, neither of which made an outstanding impression, but were interesting reading.

"Across the Abyss" I should place second in order of merit, possibly because I am fond of this type of story and would like to see more of them. To sum up, I have enjoyed this last number of the magazine very much, and will again add my plea for it to be published more frequently. In the meantime, congratulations on your pioneer work.—JOHN C. CRAIG, 167 Stafford Road, Caterham, Surrey.

(*As you have seen, we are trying to get hold of stories which rely on ideas that have not been overworked in the past, but we in turn have to rely on our authors to provide us with such stories, as some of them are striving to do. But, as you also appreciate, the idea alone does not make the story; and if it came to the question of choosing between a badly-told story with an original idea and a good story on an old theme, we think our readers would prefer the latter every time.*—EDITOR.)

THE LUNAR ROCKET-SHIP

I HAVE just been reading TALES OF WONDER No. 7, and would like very much to have the answers to a few questions with regard to the article, "We Can Rocket to the Moon—*Now!*" by Arthur C. Clarke, in which he states that, according to the B.I.S., no problems remain that cannot readily be solved by present-day engineering and scientific technique. The questions are:

1. What do they intend to insulate the ship with, to keep out the absolute zero of space?

2. How do they intend to repel any meteors that bombard them? I am given to understand that a ship in space would be constantly battered by small meteorites, and that one of these, be it only the size of a pea, would pass through any known metal up to six inches thick.

3. How do they propose to protect themselves from the cosmic rays, once they get out into the void, without the atmosphere to protect them?

4. When these gallant men (for they certainly will be gallant, with all these drawbacks) reach the Moon, will they stay in the ship until they are prepared for the return journey, or have suitable "space-suits" been invented to withstand the vacuum of space, and to keep men on the ground on a planet where the force of gravity is practically nil?

That is all my questions; and I wish to congratulate you on the way you are running a fine magazine. I only wish it were fortnightly.—JACK GREGORY, 106 Woolley Bridge, Hollingworth, Nr. Manchester.

(*We have asked our contributor to answer your questions for you, and for any other readers to whom similar objections may have occurred. His explanations follow.*—EDITOR.)

Space is not at absolute zero; since it is the complete absence of matter, it can be neither hot nor cold. A ship in space, in the Sun's rays, would get hot on the bright side while the dark side would become very cold. By rotating the vessel slowly (as would be done in any case, to give artificial weight), the temperature can be equalised. Any danger from excessive heating by the Sun can be avoided by metal plating or white paint, which would reflect the surplus heat.

The danger from meteors is extremely slight. It varies from time to time, according to the positions of the great meteor streams, but it is doubtful if at any time the danger to a ship in space would amount to more than one chance in a million of being hit; and every year, in this country, one person in eight thousand is killed on the roads.

Cosmic rays do not appear to have any harmful effects, and it should be remembered that, after reaching a maximum intensity some ten miles up, their strength falls off again as one goes out into space. Men have been in the region of maximum intensity for several hours, without any ill effects, and the Lunar journey would last only two or three days. Finally, the really powerful rays already get through our atmosphere; it is only the weak ones that are cut off.

On the Moon, the crew of the space-ship would wear air-tight suits: these are already in use, and some time ago it was officially stated that the R.A.F. possess a suit that would be quite safe in a complete vacuum. I don't quite know what Mr. Gregory is referring to when he mentions "a planet where the force of gravity is practically nil." I need hardly say that this does not apply to the Moon, where gravity is one-sixth that of the Earth. Presumably, he implies that there is a danger of jumping right away from the satellite, a danger that admittedly exists on some of the obscurer asteroids; but a man who could jump clear away from the Moon would be strong enough, on Earth, to do 150 miles straight up!—ARTHUR C. CLARKE.

LOOK OUT THERE!

AS A reader of science fiction for many years, I offer my opinion on TALES OF WONDER. The general standard is quite good; but some of your stories, although unusual, are not *science* fiction, and I think your readers would appreciate some thought-provoking science stories. While some English authors are good, the majority cannot compare with their American contemporaries. Some stories by such writers as Fearn, Campbell, Coblentz, E. E. Smith and the late Stanley G. Weinbaum would be very welcome.

In your seventh issue, "The Venus Adventure" was quite a good story, but the people of the other universe "Across the Abyss" were ridiculously human. Life would not develop so similarly. Your rocket cover seemed wrong to me. From the fins (why are these necessary?), the space-ship seems to be going down the cover, while the rockets are busy working in the opposite direction!

Your rocketry article was quite useful, but it seemed to overlook one or two important points. When the discarded metal pieces enter the Earth's influence—as they would—they would crash down at terrific speed; and I, for one, have no desire to be hit by things

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The Guinea Prize for the best letter printed in this issue is awarded to:

JOHN C. CRAIG,
167 Stafford Road, Caterham, Surrey,

for his letter headed, "Science and Love." In view of our SEARCH FOR IDEAS, *and the opportunities it affords to readers, the Letter Prize is now discontinued.*

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thus carelessly allowed to fall all over the place. Until the advent of atomic power, a mixture of oxygen, hydrogen and acetylene should provide a reasonably adequate fuel. One important requirement is an alloy that can resist the terrific temperatures created, while many rocket enthusiasts overlook the fact that the escape velocity of seven miles per second can be avoided by a step system of propulsion.

After this rather technical outburst, I will conclude with the hope that your magazine will soon outdo its trans-Atlantic rivals. Science fiction seems to be growing in popularity, and doubtless TALES OF WONDER will rapidly advance in circulation and quality.—J. WATTS, 45 Crescent Road, Southport.

(*We have already published, and are still being favoured with, stories by John Russell Fearn and Stanton A. Coblentz. The space-ship on our last cover was descending—hence the rockets working in the opposite direction, to retard its fall towards the planet Venus. The fins, and wings, were used to stabilise the ship during its earlier flight through Earth's atmosphere, and to assist the landing on Venus. We have also prevailed upon Mr. Clarke to answer your points regarding his article on the B.I.S. rocket-ship.*—EDITOR.)

The space-ship designed for the flight to the Moon would take off along a definite path; accordingly, the band in which the discarded cellules would descend would be accurately known. It can quite easily be arranged that the danger zone would be over the sea. Alternatively, the cellules could be dropped by parachute A great many of them would not fall back at all, but assume orbits round the Earth.

We plan to use our rocket-motors for a short time, and drop them before they burn out. Therefore, no unknown alloys are required, for present materials can fulfil the requirements. And I don't think that *any* rocket enthusiasts overlook the fact that a rocket has not got to reach the escape velocity. The people who sometimes overlook it are the popular writers and science fiction authors!—A.C.C.

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AUTHORS' CORNER

To-morrow's Adventure

By JOHN RUSSELL FEARN

IT IS difficult to say anything new about science fiction. Most people know about it, though the superior ones elevate their noses or look down them at it, quite unaware—or afraid to realise—that many of the things it depicts could happen to-morrow, through a slight miscue of Nature or an ingenuity of Man. We have still a good deal of scepticism to overcome; but ultimately, I believe, it will come to be as generally accepted as any other form of literature.

After all, if detectives can solve murders and boy can meet girl, why can't we have visitors from Mars or travel to other worlds? The only difference is that our particular kind of adventure, which is the most exciting of all, has not yet come to pass in real life. But don't forget the sceptics said that man would never fly. . . .

At the same time, there are, I think, comparatively few science-fiction stories that have a strictly logical basis. For myself, I have in the past taken the opposite line and gone the limit with imagination. My efforts, as a result, have brought me a frightful amount of brickbats; but I long ago became impervious to them, because I believe it is the editor's opinion that counts, first, last and all the time.

Of course, we can't all write like Dr. Keller, but the rest of us do our best to please, in spite of endless fault-finding by readers who have not the remotest idea of the difficulties in the way of an author. Criticism is always useful—but those who see only rubbish in everything they read are in need of a straitjacket or a cauldron of fast boiling oil.

Of late, however, I have tried to sober down the imaginative side of my work, and concentrate more on the adventurous and human elements. Since first I afflicted American readers five years ago, I have churned out countless stories for several different magazines. I love writing; and the older I get, the more I like it, because there is so much to learn. Every day I have the feeling that here is a chance to go one better, in style and expression, than yesterday.

I do not understand the curious mind that produces brilliant stories, and yet thinks writing a bore. But I write for a living, not as a hobby, working five hours a day and no more. There are some who seem to think my output unusual, but there are magazine writers who produce far more than I; and although my desire is to write twice as much, I do not want to risk spoiling my work.

I wrote "The Man Who Stopped the Dust" in an attempt to show that some imperfections are necessary, if the world is to survive. One day, while trying to shift a pile of dust from behind an old bookcase, I fell to thinking, quite casually, how nice it would be if it never collected; how much work it would save the harassed housewife. Then, when I came to look into it, I was shocked to discover what a lot of things could happen if dust really came to an end. These things I pictured in the story, the moral to which is obvious: Be joyful while you're cleaning up—you'd be in a far worse mess if there was nothing to clean up at all!

The Folk-lore of Science

By JACK WILLIAMSON

DESTINY perhaps intended me for a man of action, for my career began, in 1908, in the raw mining town of Bisbee, in what was then the Territory of Arizona. I was six weeks old when my parents carried me to El Rancho la Loba, a remote mountainous range on the headwaters of the Rio Yaqui, in Sonora, Mexico.

That palm-thatched, stone hacienda in the canyon is the scene of my earliest memories. It was a hostile country. Deadly scorpions lurked beneath the stones; mountain lions sometimes came down to prowl round the house and catch pigs—and there was some apprehension, I understand, that the as yet undiscovered science-fiction writer might go the same way. Renegade Apaches lived unseen about us and made a bloodless raid upon the camp during the absence of my parents.

But that colourful sojourn was ended by the disorders of revolution. My father moved to West Texas, and later, when I was seven years old, to the ranching country in eastern New Mexico that has been my home ever since. We came in a covered wagon, driving the cattle ahead, in a journey of seventeen days across the prairies. In the drouth of 1918, I remember, my father moved the herd into Texas for grass, and I went with the outfit to drive the chuck-wagon, which was quite an adventure.

But, very long ago, I quarrelled with Destiny about being a man of action. Perhaps a bronc that busted me when, with five-year-old audacity, I climbed on the saddle, had something to do with it. The vaster, richer world of books and science, a few years later, was a wondrous discovery. I remember the enthusiasm with which I devoured some of my father's dusty college text-books on scientific subjects, and the science and history articles in an ancient encyclopedia; the burning fervour with which I laboured to fashion the odds and ends at hand into a static electric machine, a model helicopter, or a water-drop microscope.

My discovery of the pioneer science-fiction magazine was a supreme adventure. "The Green Splotches," "The Time Machine" and, greatest of all, "The Moon Pool," were more tremendous and thrilling than anything in my life had been. Vaguely, I had planned to be some sort of scientist. Now, I knew that I must write science-fiction.

That was before I went to college. My days were filled, at that time, with monotonous rounds of what seemed an endless, heart-breaking war with drought and frost and dust-storms, poison-weeds and hail, for the sake of survival on the Llano Estacado. But I was determined to escape into the wondrous new world of science-fiction. Working at night, pounding an antique typewriter that had a faded purple ribbon, by the smoky light of a kerosene lamp, I turned out four or five rejected epics—and then "The Metal Man" was published without my being informed of its acceptance. It was a triumphant moment when I saw my hero on the cover of *Amazing Stories!*

Since that day, I have written something over a million words of science-fiction; and the old flame of enthusiasm still burns as it did then. I feel that science-fiction is the folklore of the new world of science, and the expression of man's reaction to a technological environment. By which I mean that it is the most interesting and stimulating form of literature to-day!

NEWS OF THE WORLD

FOR

THRILLING SERIALS

BY THE

BEST AUTHORS

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